

**ICTs and Sustainable Community
Development in the Niger Delta
Region of Nigeria**

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of Philosophy, University of London.

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DEDICATION

For my father

Declaration of Original Authorship

I, UDUAK A. OKON hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed: _____

Date: _____

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Abstract

This research explores ways in which ICTs may contribute to building and sustaining active and healthy communities in the Niger Delta region of Nigeria. As such, it addresses key debates around notions of sustainable communities and the appropriateness of recent ICT initiatives designed to support processes of development. A central feature of the research is that the methodology was designed in a cyclical phased structure that combined ethnographic approaches and action research in a participatory framework. It focuses on the actual practices of use and interactions with ICTs in the wider context of people's lives and socio-cultural structures in nine diverse communities in the states of Akwa Ibom, Rivers State, and Bayelsa State. An ethnographic approach was used to guide the research process and make sense of a wide range of social relationships and processes. Action research was used to bring about new knowledge, both in terms of research and in the lives of the participants, through shared understandings of situations. Grounded theory informed both the method of data collection and analysis, and the technique for theory building.

The research shows that the people of the Niger Delta have very different conceptions of notions such as 'sustainability' and 'community' than are to be found in most Western academic literatures. Participants in the research recognised that familiar ICTs such as radio and TV can act as a bridge to more recent ICTs such as mobile phones and computers, and that these can play a crucial role in social organisation and advocacy.

Based on the outcomes of the participatory action research an integrated media framework for ICT was developed which could be implemented to support the social sustainability of communities adapted to local conditions in the Niger Delta. This focuses on community radio as a focal point for local development. The model also incorporates the importance of blending technologies, so that community radio, mobile phones and internet access can be used for communal benefits. This framework focuses on three elements: enhancing local capacity; strengthening forms of social organisation; and strengthening mechanisms for sharing of experience and knowledge. It represents a starting point for exploring further ways in which ICTs may be deployed to support the sustainable development of communities in the Niger Delta.

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Glossary of Terms

AFRRI	African Farm Radio Research Initiative
AMARC	World Association of Community Radio Broadcasters
BBC WST	British Broadcasting Corporation World Service Trust
CDC	Community Development Committee
CI	Community Informatics
CIA	Central Intelligence Agency, USA
CIDA	Canadian International Development Agency
CSR	Corporate Social Responsibility
DFID	UK <i>Department for International Development</i>
DSTV	South African based Cable Network
ECOSOC	United Nations Economic and Social Council
EITO	European Information Technology Observatory
FAO	Food and Agriculture Organization of the United Nations
FRCN	Federal Radio Corporation of Nigeria
FRN	Federal Republic of Nigeria
GKP	Global Knowledge Partnership
GSM	Global System for Mobile Communication
HITV	Nigerian Cable Network
ICLEI	International Council for Local Environment Initiatives
ICT4D	Information and Communication Technologies for Development
ICT	Information and Communication Technologies
IREX	International Research & Exchanges Board
ITU	International Telecommunications Union of the United Nations
LA 21	Local Agenda 21
LGA	Local Government Areas
MIU	Mobile Internet Unit, Nigeria
NBC	National Bureau of Statistics
NBC	Nigeria Broadcasting Corporation
NEPA	Nigerian Electric Power Authority

NEPAD	New Partnership for Africa's Development
NITDA	National Information Technology Development Agency
NITDEF	National Information Technology Development Fund
NNPIT	Nigeria National Policy for Information Technology
NTA	Nigerian Television Authority
NYSC	National Youth Service Corps
Okada	Commercial Motorcycle Riders
PAR	Participatory Action Research
PRA	Participatory Rural Appraisal
PSNet	Public Service Network, Nigeria
SABI	State Accelerated Broadband Initiative, NCC, Nigeria
SARI	Sustainable Access in Rural India
SMS	Short Message Service
TDMA	Time Division Multiple Access Phone Technology
UN ICT	United Nations Information and Communication Technologies Task Force
UNCSTD	United Nations Commission for Science and Technology for Development
UNECA	United Nations Economic Commission for Africa
VOA	Voice of America Radio Service
NDDC	Niger Delta Development Commission
HRW	Human Rights Watch
LGC	Local Government Councils
NDES	Niger Delta Environmental Survey
NDHS	Nigeria Demographic and Health Survey
NGO	Non Governmental Organisation
NCC	Nigeria Communications Commission
NPC	Nigerian Population Commission
OECD	Organisation for Economic Co-operation and Development
RIA	Research ICT Africa
SCOT	Social Construction of Technology
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
WCED	World Commission on Environment and Development
WSIS	World Summit on the Information Society
Pidgin	A localized version of the English Language

Chapter 1: ICTs for Sustainable Community Development

“No community has ever reached the shores of liberation and equality and empowerment without maintaining and increasing the capacity of their own indigenous institutions”

Carleen Gardner,

Assistant Director-General, FAO

(Cited in Freeman and Cohen, 2001: 585)

1.1 INTRODUCTION

In both academic and public discourse sustainable development is frequently seen as pertaining primarily to environmental issues and grassroots social development. This stereotype misses the reality of the interconnections between sustainable development and the Information Society. It is critically important to consider the implications of Information and Communication Technologies (ICTs) in sustainable development because the growing acknowledgement of sustainable development as a goal and the advances in ICT share many characteristics as drivers for change within societies (Tongia *et al.*, 2005; WSIS, 2003; Hilty *et al.*, 2005). The Information Society and sustainable development are both policy priorities and integration between these two agendas is inevitable because both require us to rethink the nature of goods and services, both have the capacity to transform the relationship between governments, citizens and consumers (EITO, 2002). ICTs are the tools that underpin the emerging Information Society (Vosloo, 2005). However, there have been surprisingly few attempts to assess whether the growing acceptance of the sustainable development agenda and the growth of ICT may be integrated to complement each other. ICTs present an opportunity to integrate sustainability principles into the Information Society at an early stage in its development, maximising the social and environmental opportunities of ICT and mitigating its adverse impacts (EITO, 2002). ICTs are constantly giving rise to new social phenomena which need to be factored into the equation. According to Hilty *et al.* (2005), interdisciplinary and international research in this field is just beginning. Thus, there is a need to integrate these fields and focus on their areas of convergence, such as raising awareness about sustainable development; information

availability and thus transparency; public participation in governance; empowerment of citizens; fostering cultural diversity and building capacity. Alakeson *et al.* (2003) suggest that as ICTs becomes more sophisticated and more embedded in the organizational and social structures of everyday life, we are in a better position than ever before to make sustainable development work. There is potential to harness the benefits of ICT for sustainable development, nurture an appropriate ICT capacity for Africa, and use ICT tools to preserve and promote cultural diversity (Vosloo, 2005). My research examines precisely this critical interface, with its primary focus being on the concept of ‘sustainable communities’. In the current information age, the capacity of communities effectively to position themselves as consumers and producers of knowledge is crucial to their social and economic development.

1.2 RESEARCH PROBLEM: ICTS FOR SUSTAINABLE COMMUNITY DEVELOPMENT

Studies on the relation between ICTs and development in Africa often focus on national economic development, project based initiatives and the transfer of technology from the global North to the South (Mbarika *et al.*, 2005, Musa *et al.*, 2005). The link between ICT and development has been articulated in the abstract term of the ‘digital divide’ (see for example Dewan and Riggins, 2005; DiMaggio *et al.*, 2004). This has fuelled concerns about developing countries being deprived of the opportunities for economic growth and life improvement because of lack of access to ICTs. To remedy this problem many initiatives have been undertaken to utilise ICT for development. The prevalent themes have been on poverty reduction strategies, issues around providing access to developing countries and addressing the abstract digital divide. They typically aim to create awareness of the benefits of ICT, raise investment, and promote policy measures for the deployment of telecommunications infrastructures and the diffusion of ICT applications in all sectors (World Bank, 1996). However, in some areas the ICT revolution has served only to widen existing economic and social gaps (Van Dijk, 1999; Main, 2001; Morales-Gomez and Melesse, 1998). This has prompted questions about the social embeddedness of these technologies and how developing countries can meaningfully adopt these technologies while lessening their undesirable social and cultural consequences (Warschauer, 2003; Unwin, 2009). Many ICT initiatives have not produced their desired outcomes. One of the

major reasons for this is that the success or failure of ICT for development initiatives often depends on their 'fit' with the socio-economic and cultural context in which they are implemented (Sein and Hadrinath, 2004). Designing and implementing ICT projects that are a right 'fit' for the socio-economic and cultural contexts of particular communities in developing countries is an area that has been under researched and a gap which my own research seeks to address.

My research explores ICT for development from a critical, social viewpoint, focusing particularly on the potential role of ICTs in enhancing the creation of sustainable communities. The ICT media I explore in this thesis are computers, internet, mobile phones, television and radio. This draws on Hamelink's (1997: 3) definition of ICTs: "Information and Communication Technologies (ICTs) encompass all those technologies that enable the handling of information and facilitate different forms of communication among human actors, between human being and electronic systems and among electronic systems". This includes both the 'old' ICTs of radio and television, and the 'new' ICTs of computers, mobile technology and the internet.

Some development practitioners have become discontent with the poor results of technology and capital-intensive top-down interventions and are developing a new sensitivity toward social and cultural factors. There is a growing recognition that culture and indigenous practices are vitally important in development processes (Chua, *et al.*, 2000; Schech and Haggis 2000), especially in developing countries where indigenous knowledge and practices have supported and sustained communities for generations. Simon (2006) notes that development theorists now acknowledge that cultural diversity constitutes a central 'problem' for or obstacle to conventional development, and that the homogeneity in Western models and Western ethnocentrism need to be challenged. He argues that it will not be overcome by large-scale, technologically driven aid and investment programs. Schech and Haggis (2000) underscore this notion and argue that culture should be conceptualised as a social process rather than a static unchanging entity or characterised by an ensemble of facts, material objects and rituals. Simon (2006) also observes that this conceptual and methodological progress in development discourse has focused attention on the need to understand the local cultures in nuanced terms that highlight human agency, subjective perceptions and different knowledge systems. This

research therefore seeks to do just that, by highlighting the roles of cultural influences, indigenous practices and subjective realities of people in the adoption of ICTs for development. Escobar (1991) stresses the importance of this conceptual and methodological approach, stating that development projects have to be socially relevant, culturally pertinent, and involve the direct beneficiaries in a significant fashion.

1.2.1 Research Scope and Key Assumptions

‘Sustainability’ is a very broad term, and has been applied in various fields. I focus here on social sustainability as it directly relates to communities. Woodhouse (2000) argues that the concept of sustainability is best understood and evaluated on the basis of a sustainable community and is an area that has been neglected in the literature compared to economic or environmental sustainability (Magis and Shinn, 2009; Mckenzie, 2004). To provide a better understanding of the nature of communities in the Niger Delta and to identify the key factors that influence community in the Niger Delta, my research set out to understand three key issues about Niger Delta communities: (1) how and why people define the concept of community; (2) what indigenous and traditional practices sustain such communities; (3) and how ICTs can sustain these and support their sustainable development. The pilot study covered nine communities which comprised of six rural communities and three urban communities to get a broad and more generalised interpretation of how ‘community’ and ‘sustainability’ are conceptualised by people. The main focus of this research is however on indigenous rural communities and the substantive part of the field work was focused on communities with a high level of indigenous population.

One of the key assumptions underlying the research is that indigenous communication and knowledge systems are important considerations in providing ICT solutions for development. There are five reasons for this. First, indigenous communication has value because it is an important aspect of culture and the means by which culture is preserved, handed down and adapted (Hanna *et al.*, 1996, UNEP, 1998). These indigenous communication systems are being eroded by externally derived systems such as new technology, the mass media, schools and bureaucracies. This endangers the survival of much valuable information and consequently the sustainability of indigenous communities (Mundy and Compton, 1995). Second, these exogenous systems are largely

confined to urban areas in developing countries in contrast to indigenous systems which are inclusive and endemic and needed to convey messages to remote populations (Grenier 1998). Third, indigenous channels have high credibility among the people because they are familiar and are controlled locally (Studley 1998) while local people are often sceptical of the externally controlled media. Fourth, indigenous systems are important conduits of change (Mundy and Compton, 1995). Research has shown the importance of informal, interpersonal contacts in persuading people to adopt, or reject, innovations. Such contacts are often made through indigenous channels (Ellen and Harris, 2000). Finally, building on indigenous channels allows for the participation of local people in development efforts (Gorjestani, 2000) and thereby enables them to retain some control over local media more easily than over externally derived media solutions.

This research is fundamentally about how people in communities use ICTs and how they organize themselves to put them to work towards their own negotiated goals. It is about the ways in which people in communities devise social organizations to harness technological innovation. I contend that this process requires active participation of my research subjects in the research process and I view them as stakeholders who have a role to play in making communication technologies a relevant tool for improving community development outcomes. The research journey starts with the need to create a common understanding about how communities are structured and defined in the Niger Delta, what people's understandings of sustainability are and what their negotiated goals for sustainable communities are. This is an important and necessary starting point because without a clear understanding of context and the conceptions of the people one cannot begin to explore appropriate solutions. The research goes on to explore how communication technologies are currently being used, why they are being used in these ways, and what might be appropriate solutions to meet the defined goals. The research journey goes further, towards developing a framework for ICT facility based on collaborative learning that is a right 'fit' for the socio-cultural context of communities in the Niger Delta.

1.2.2 Aim and Objectives

Against this background, my research seeks to move away from the focus of ICT as end in itself to exploring how ICTs can be utilised as tools (among others) to support the development of sustainable communities and to empower people in communities to define

and design the development outcomes that they desire. To this end, the aim of this research is to explore how ICTs may contribute to and support the sustainability of communities in the Niger Delta Region of Nigeria, focusing particularly on social and cultural issues. A major strategy for achieving this aim is to build on indigenous practices and knowledge systems that sustain communities by learning with and from research participants in a participatory framework.

1.2.3 Evolution of the Research Questions

The original focus of this research was on the role of information and communication technology (ICT) investments in the process of sustainable communities' development in the Niger Delta Region of Nigeria. The main aim was to examine the ICT investments made in the Niger Delta Region of Nigeria, to evaluate if it is possible to successfully plan and forecast the effect of ICT on sustainable development. It sought to develop and test an evaluation schema that can understand and explain the relationship between the application of ICT and human development and its impact on the development of sustainable communities in the Niger Delta with the following research questions:

- How can Nigerian communities be made more sustainable?
- How can good practice in European and North American technology enhanced development evaluation best be utilized in developing an appropriate and efficient evaluation schema for Nigeria.
- Using such a schema, what have been the influences of ICT investments on the Niger Delta Region?
- In light of the above findings, how can such initiatives be better delivered to ensure sustainable development in the region in an appropriate and sustainable manner?

As I began the literature review, I found that the definitions of sustainable communities as presented in the literature would be problematic to interpret for communities in the Niger Delta. This highlighted the need to start with local constructions of sustainable communities by letting the people define these concepts for themselves. The literature also revealed that top-down approaches to development in developing countries have proven unsuccessful in many instances (See Section 1.3 and Section 2.5) and advocate instead for a needs-based, bottom-up approach in development programming. So

designing a schema based on Western models was eliminated as a research focus and instead I became progressively focused on the notion of empowerment and giving the people a voice. This was greatly influenced by Chambers (1997) book, *Whose Reality Counts? Putting the First Last*. The next set of questions was derived from the gaps identified in the literature after the pilot study. I refined the research questions further as the research progressed in a way that involved my research participants in a significant fashion based on a bottom-up and needs-based approach. Arising from the above and in order to deliver the stated aim in Section 1.2.2, the main research questions that the thesis addresses are:

1. What are Local Constructions of Sustainable Communities in the Niger Delta?
 - a. How do Niger Delta people define ‘community’ and ‘sustainability’ and why?
 - b. What are the social structures, cultural influences and network of interactions that define these communities?
2. What is the structure of the Communicative Ecology of Communities in the Niger Delta?
 - a. What are the devices and connecting media that make up the communicative ecology?
 - b. What are the indigenous communication and information networks in these communities and why are they structured as they are?
 - c. How are ICTs devices interacting with these indigenous communication systems?
3. How can ICTs best be deployed to meet the communication and information needs and also contribute to the development of sustainable communities?
 - a. Why do these communities have the information and communication needs that they do?
 - b. What are key factors that influence ICT use in the Niger Delta?
 - c. What are the preconditions for the successful implementation of ICT solutions in Niger Delta communities?

1.3 DEFINING KEY CONCEPTS

Exploring the concepts of development, empowerment and participation is not the main focus of this research, but the terms are frequently referred to in the thesis and they are underlying concepts that my research grapples with. I therefore provide a brief discussion

here about them and provide some operational definitions of these concepts as I use them in this thesis.

1.3.1 Development

The term ‘development’ has been defined in widely differing ways, and attracts considerable critique in an attempt to successfully define and understand it. There is no consensus over the definition and interpretation of ‘development’; its definition usually depends on the context and subject area it is applied to. Rist (2002) argues that the principal defect of most pseudo-definitions of development is that they are based upon the way in which one person, (or set of people) envision the ideal conditions of social existence. Likewise Cowen and Shenton (1996: 4) note that “Development comes to be defined in a multiplicity of ways because there are a multiplicity of ‘developers’ who are entrusted with the task of development”. In conventional thinking it is taken for granted that development practice has some positive value, which is desirable or in some cases even necessary.

Critical theorists such as Escobar (1995), Sachs (1992) and Esteva (1992) have denigrated the use of the term ‘development’ and question the very foundation and motivation for the term, calling instead for the dismantling of ‘development’. They view the notion of development as essentially a Western doctrine of which the institutionalizing assumptions should be rejected. Radical critiques of development are replete with the language of failure, crisis and renewal such as ‘development is the problem not the solution’ (Rist, 2002). According to such arguments, development has functioned as an all-powerful mechanism for the production and management of developing countries in the post-1945 era. This system defined how development was conceptualised both by the North and South which viewed development as paving the way for the achievement of those conditions that characterize rich societies: industrialization, agricultural modernization, and urbanization. Consequently people in many countries began to view themselves as underdeveloped, and then how ‘to develop’ became for them a fundamental problem they had to address. This was substantiated through the deployment of countless strategies and programs: governments designing ambitious development plans, institutions carrying out development programs, experts studying development problems and producing repeated theories, foreign experts all over the place, and multinational

corporations brought into the country in the name of development. Escobar (1995) argues that Third World reality has been defined by the discourses and practices of economists, planners, nutritionists, demographers, thereby making it difficult for people to define their own interests in their own terms and in many cases actually preventing them from doing so. These multiplicities of practices, institutions and structures have had a profound effect on the social relations, ways of thinking, visions of the future of the Third World. According to Escobar (1995), development, has to be seen as an invention and strategy produced by the 'First World' about the 'underdevelopment' of the 'Third World' and not only as an instrument of economic control over the physical and social reality of developing countries. This notion has been heralded in previous decades as it was also argued that development has been anchored in the Western economy, with its systems of production, power and signification (Foucault 1973; Baudrillard 1975). From this critical perspective, development is what constructs and defines developing countries without their noticing it. Schuurman (1993) refers to the discrediting of modernist approaches but lack of plausible alternatives as the 'impasse of development'.

Despite such critiques of development, it is a term that cannot be ignored and is the basis for much international aid as well as research on developing areas including my own. Critiques of development have been useful in forcing people to reassess "the ways in which the west represents its non-western others" (Watts 2003: 5) and to ask questions about what development is, who defines it, who directs it, and why. However, as noted by Simon (2006) the proverbial baby should not be thrown out with the bath water. He observes that these protests are not really a rejection of development *per se*, but are rather aimed at specific, non-participatory interventions that threaten or undermine lives, livelihoods and environments in the name of 'development' through displacement by aggrandized schemes and corporate greed. He further notes that such assertions take little account of the millions of people who have benefited from development projects and others whose legitimate aspirations for a better quality of life and more sustainable livelihoods are tied in with progressive and appropriate development programs. He proposes instead that the way forward should be how to link local identities, practices and agendas to broader, multi-scale projects and campaigns for change that is critically post-developmental. My research takes this line and the post-development stance proposed by Escobar (1995) who proposes a vision of indigenous social movements as vehicles for other ways of doing post development which are based on decentralised, community-

based, participatory, indigenous and autonomous strategies, arguing that “cultural difference is the root of post-development” (Escobar 1995: 225).

In this research, the focus is on social development as a process which involves the empowerment of indigenous people and their participation in development choices. Homfeldt and Reutlinger (2008) define social development as pursuing an alternative approach that focuses on the empowerment and autonomy of individuals and takes into account the structural obstacles that confront them as they shape their daily lives in the sense of learning to develop their selves. Midgley (1995: 25) conceives it as a “process of planned social change designed to promote the well-being of the population as a whole in conjunction with a dynamic process of economic development....as a process of promoting people's welfare”. In this thesis, the definition of the term ‘development’ is consistent with Homfeldt and Reutlinger’s notion of social empowerment of individuals. Development is interwoven with notions of empowerment. I view the idea of a possible social development as resulting from the empowerment of indigenous people. I therefore explore further the notion of ‘empowerment’ in the next section.

1.3.2 Empowerment

One of the first people to engage thoughtfully with the notion of empowerment was Paulo Freire (1970), whose primary concern was to develop a plan for liberating the oppressed people of the world. Empowerment has been most frequently associated with alternative approaches to social development and the concern for local, grassroots community-based initiatives (Parpart *et al.*, 2003). Empowerment is mostly viewed as a social process because it occurs in relation to others (Page and Czuba, 1999; Peterson *et al.*, 2005) although an alternative view is that it is fundamentally a political process (Kymlicka, 1990) because the idea of power is at the core of empowerment. Some scholars are concerned with the societal relations of power and thus hold a more collective and firm political notions of empowerment (see for example Miller, 1990; Shor and Freire, 1987; Shrewsbury, 1987; Simon, 1987).

There is a range of debates about the concept and operation of power, which results in a variety of interpretations of empowerment. It has been referred to as ‘relational power’ (Lappe and DuBois, 1994), ‘generative power’ (Korten, 1987), ‘integrative power’, and ‘power with’ (Kreisberg, 1992). Most references deal with gaining, expanding,

diminishing, or losing power (Page and Czuba, 1999). Previously, power was understood as an isolated entity which is usually possessed at the expense of others (Lips, 1991), but more recently, power is increasingly being conceived as shared as it is strengthened through sharing (Kreisberg, 1992). The process of sharing power provides the possibility of empowerment.

The Swiss Development Corporation (2004) conceptualises empowerment as an emancipation process in which the disadvantaged are empowered to exercise their rights, obtain access to resources and participate actively in the process of shaping society and making decisions. Page and Czuba (1999: 25) likewise define it as a “multi-dimensional social process that helps people gain control over their own lives”. It is a process that fosters power in people for use in their own lives, their communities and in their society, by acting on issues they define as important. They further state that empowerment is a process that is similar to a path or journey, and one that develops and grows as one works through it. It builds the capacity to analyse, organise and mobilise that result in the collective action that is needed for collective change. It is often related to a rights-based approach and the empowering of citizens to claim their rights and entitlements (Piron and Watkins, 2004). Likewise Freire (1973) identifies three progressive steps of empowerment: conscientizing, inspiring, and liberating. He argued that disadvantaged people can be empowered by learning about social inequality, encouraging others by making them feel confident about achieving social equality, and third, liberating them.

As with development, many view empowerment as both a process and an outcome (Spreitzer *et al.*, 1997; Thomas and Velthouse, 1990). Others take only an instrumentalist view of empowerment, focusing more narrowly on the importance of process while others focus on outcomes (Parpart *et al.*, 2003). These distinctions have some operational implications. A focus on process is concerned with capacity building or an increase in participation of previously excluded groups in the design, management and implementation of development activities. Achieving empowerment is intimately linked to addressing the causes of disempowerment and tackling disadvantage caused by the ways in which power relations shape choices, opportunities and wellbeing.

However there have been critical discourses highlighting the limitations in trying explicitly to further empowerment approaches (Eyburn and Ladbury, 1995; Cleaver and Kaare, 1998) and around the ways in which the term ‘empowerment’ is conceptualised (Foucault, 1988; Gore, 1992). For example, Gore (1992: 331) questions the notion of “what ‘we’ can do for ‘you’”? in empowerment discourses and states that rather than making pronouncements about what we can do for you we need to ask what can we do for you? She points out some problematic underlying presumptions with the construction of empowerment in critical discourses. She notes that first, there is always an agent of empowerment; second, there is the notion of conceiving power as property, and third, there is some kind of vision or desirable end state. As such it is a process that requires an agent – someone, or something to give authority or to enable the target for empowerment. This raises some concerns about the extraordinary abilities and qualities attributed to agents of empowerment and how they are accorded great importance in these discourses (Gore, 1992). Another major shortcoming in the constructions of empowerment is that the conception of power as property, as an entity that an agent can give to the target of intended empowerment suggests that power can be given, provided, controlled, held, conferred or taken away (Gore, 1992). For example Shewsbury (1987:7-8) describes this as “a participatory, democratic process in which some power is shared” and “the goal is to increase the power of all actors, not to limit power of some”. Foucault (1980:89) instead proposes that rather than conceiving power as a possession or a commodity, a thing to be held or exchanged, he argues that power is “exercised, andonly exists in action”. Foucault’s analysis of power rebuts the idea that one can give power to, or can empower another. He rejects the conceptions of power as property and calls for a rethinking of empowerment as the exercise of power in an attempt to help others exercise power and in the emphasis on power as action. This calls for an acknowledgement of the limitations of what ‘we’ can do for ‘you’ (Gore, 1992). Issues around exactly who is to be empowered, and who does the empowering and the scope and limitations of the empowering effects of any project are questions that require further exploration.

My research is concerned with the path to individual and collective empowerment of people in the Niger Delta, and it conceptualises empowerment as a process that shares power with research participants by engaging individuals and communities in planning their own development. Whether this process has indeed been empowering to my research

participants is a subject for further analysis and largely outside the scope of this research. Page and Czuba (1999), however, note that the individual and community are fundamentally connected in the empowerment process and my thesis is in part about how ICTs shape the interactions between social structure and agency in communities. It examines whether ICTs can reinforce the structures that make people behave in certain ways or enable people to transform the structures and consequently empower them to change behaviours. The focus on the connections between individuals and community action encourages individual change through participation and discussions, and supporting community action through participants' efforts to change their communities, providing opportunities and resources for people to become more involved in development planning. The synthesis of individual and collective change (see for example Wilson, 1996; Speer and Hughey, 1995; Florin and Wandersman, 1990) is my understanding of an empowerment process. I also pay attention in my research to the notion of cultural empowerment and how ICTs may support this. Cultural empowerment is defined by Stromquist (1993) as redefining of rules and norms and the recreating of cultural and symbolic practises of a group of people.

1.3.3 Participation in Development Discourse

'Participation' has become a buzz word in many development circles and is a widely promoted methodological principle in discourses about development. Participation was made especially popular by Chambers (1994) with his Participatory Rural Appraisal (PRA). Nevertheless, participatory approaches have been around a lot longer, and have been used since the 1970s, evolving and spreading to many domains. Scholars such as Freire (1970) were among the first to challenge the dominant paradigm in development practice at the time, which was based largely on top-down and modernization approaches. Participatory approaches emerged out of the recognition that top down approaches to development had failed effectively to deliver development solutions for local people.

The field has been greatly influenced by the work of Chambers (1997) who advocated the empowerment of local people and their knowledge, and rejected the assumption that 'experts' know best about local needs and realities. Social scientists such as Escobar (1995) and Scott (1998) have also provided an incisive critique that demonstrates that top-down perspectives in development were disempowering and

ineffective. The aim of participatory development is to ensure a people-focused development that prioritizes the needs of beneficiaries and involves them in initiatives that affect them and over which they had previously had limited control and influence. Guijt (1998: 1) defines the overall aim of participatory approaches as being “to increase the involvement of socially and economically marginalized peoples in decision making over their own lives”. There are three main assumptions that underlie participatory development: first, that people especially in developing countries know what they need; second, that given the opportunity, community members will actively become involved in working out solutions to their problems; and third, that once communities start to participate they will be able to develop the organizational capacity needed to maintain self-sustained development. Several participatory methodologies draw on planning, decision making and social learning models in the sense that they are clearly positioned in terms of the models activities or phases.

There are a variety of positions used to articulate the need for participation in development (see for example Webler and Renn, 1995). Some arguments are based on the need to gain access to relevant information, networks and target groups (Geurts and Mayer, 1996). This is referred to by Leeuwis (2000) as the instrumental view, which argues that people would not change unless motivated or inspired to by being involved in one way or the other in a project. Another view adopts an ideological and normative view which believes beneficiaries have a desire and a moral right to participate in the choices that affect their lives (Rahman, 1993). A third set of arguments is based around political concerns such as the desire to empower certain groups in society (Nelson and Wright, 1995; Rahman, 1993). To this end, Nelson and Wright (1995) make a distinction between participation as a ‘means’, in programs where the goals are set and externally derived and imposed on the beneficiaries and participation as an ‘end’ where the process itself is an empowerment mechanism used to empower participants so that they can determine their own goals and future. Similarly Fischer (2006) characterizes participation in terms of three effects: instrumental, developmental, and intrinsic. Instrumental effects of participation are designed to achieve particular goals or outcomes as people participate to achieve those outcomes which they would not be able to achieve through personal efforts. Developmental effects refer to the impacts that participation can have on building individual or group’s capacities by expanding the individual’s or group’s powers of

reflection and education, enlightenment and commitment to social action, which is the way I use it in this research. They relate to specific action-oriented skills. Intrinsic effects on the other hand, refers to the internal benefits of participation which are less tangible and quantifiable, yet which inspire a sense of personal gratification as a result of improved self worth, and a stronger identification with one's community (Nagel, 1987) .

Participatory approaches have recently received significant critiques from development scholars, most notably Hickey and Mohan (2005); Mohan (2001) and Cooke and Kothari (2001). The key critique arise from the failure of participatory approaches to deal with the issues around power and politics and the lack of understanding of how power operates and is constituted and consequently how this can lead to empowerment (Mosse, 1994; Kothari, 2001). Another major critique of participative approaches is the excessive obsession with the 'local' as opposed to wider issues of inequities, injustice and oppression (Mohan, 2001; Mohan and Stokke, 2000); and an insufficient consideration of the role of structure and agency in social change (Cleaver, 1999). Other scholars have argued that as a result of the mainstreaming of participation in development, it has come to be viewed by development practitioners as purely a technical method for program implementation rather than as a methodology for the empowerment of people (Carmen, 1996; Cleaver, 1999; Rahman, 1995) which Francis (2001) refers to as methodological individualism.

Cooke and Kothari (2001) refer to participation as the new tyranny and identify three potential and real tyrannies of participatory approaches in inquiry and development interventions. The first is the *tyranny of decision-making and control* in which they question the role of participatory facilitators in overriding existing legitimate decision-making processes. They note the enduring control of decision making held by those who initiate, fund, and facilitate participatory research despite the rhetoric of role reversal and empowerment. They claim that participatory approaches services the agenda of international agencies, governments and research institutions instead of transforming them. This they claim has led to inadequate challenge of structural power issues. The second is the *tyranny of the group* in which they warn about the dangers of 'groupthink' (group reasoning characterized by uncritical acceptance or conformity to prevailing view points) and suggest that group dynamics can lead to participatory decisions that reinforce the interests of the already powerful. This notion is aptly termed by Agarwal (2001) as

“participatory exclusion” - capture of participatory processes by local elites, legitimising and reinforcing local power structures. This can further effectively deny those marginalised from voicing their needs and concerns. The emphasis of participatory approaches on the local as a locus of change also overlooks how issues researched for development often have structural causes beyond the local boundaries of the communities involved (Cleaver, 2001). The third tyranny identified by Cooke and Kothari is the *tyranny of method* in which they highlight the potential of participative approaches to hinder the emergence of alternative viewpoints which have advantages participation cannot provide. They argue that the popular appeal of participatory approaches can lead to their widespread and dominant use, and crowd out other methodologies which may have been more appropriate to cultural sensitivities and to promoting inclusion of the poor and marginalised. Cooke and Kothari (2001:176) further argue that the notion of expressing power as binary opposites as does Chambers with his ‘uppers/lowers’, ‘donors/recipients’ or ‘North/South’ is too simplistic and instead they highlight participation’s tendency to privilege local knowledge whilst ignoring macro-level power structures.

While I recognise and agree with the legitimacy and importance of their radical critique, I do not see tyranny as an inevitable consequence of the use of participatory approaches if issues of dominating values, power, knowledge and validating systems are taken seriously in the research process. Most development practitioners now acknowledge that the participation of beneficiaries in development initiatives is necessary for development to be relevant, sustainable and empowering (Hickey and Mohan, 2005). Hickey and Mohan (2005: 237) argue that “participatory approaches are most likely to succeed (i) where they are pursued as part of a wider radical political project; (ii) where they are aimed specifically at securing citizenship rights and participation for marginal and subordinate groups; and (iii) when they seek to engage with development as an underlying process of social change rather than in the form of discrete technocratic interventions.” It is not my intention here to deal substantively with this debate except to point out that participatory techniques have been identified as being more successful than many approaches in ICT for development initiatives (Roman and Colle, 2003; Puri and Sahay, 2003; Taachi and Slater, 2003; Unwin, 2009) where participation is considered an essential condition for sustainability (Hearn *et al.*, 2005; Tongia *et al.*, 2005; Rideout and Reddick, 2005). Schneider and Libercier (1995) propose that participation should be supported as a

matter of priority, first and foremost for the sake of sustainability. Participation and sustainability have been operationally linked (Hearn *et al.*, 2005; Tongia *et al.*, 2005) where they are referred to as ends not just means, and this has implications for the ICT for development projects, that I discuss further in Chapter 2.

1.4 PERSONAL CONTEXT: RESEARCHING BETWEEN TWO WORLDS

Measor and Sikes (1992) highlight the importance of the researcher's personal context on the research process and posit that there is both an ethical and a methodological failure in not recognising the role of the researcher in the construction of the research narrative. They suggest that, there is an obligation upon the researcher to unpick and, at the very least, document their own place in what happened in the research because they are a part of the context. Walford (1998) similarly suggests that it is important to consider the researcher within the research process. I therefore document in this section my personal context and some of my reflections on how this context has influenced the research process.

I am a Nigerian citizen from the Niger Delta region who has been exposed to Western cultures since I was ten because of frequent travels to the United States and United Kingdom. After I completed my first degree in Nigeria, I came to the United Kingdom and pursued postgraduate studies at the London School of Economics, where I gained a postgraduate diploma and a Master of Science degree in Information Systems Management. I lived in the UK for a further three years before returning to Nigeria where I worked in Information Systems for five years, first as a systems analyst then as a management consultant. Later I moved to the Niger Delta region where I worked for a three years in a non-governmental organisation implementing development programs for youths in ICT.

My background and experiences placed me in a unique position as an insider/outsider researching between two worlds. On the one hand, I was an insider who is an indigene and had lived in the Niger Delta and was familiar with the traditions and customs of the people, while on the other hand I could be called an outsider because I had received a Western education and lived abroad for six years which meant I had adopted

some Western ways and thinking. This position of insider/outsider came with benefits as well as some limitations in the research process, and impacted the choice of research area, methodological design, analysis and ethical considerations which I explain in more detail below.

My citizenship and work experience in the Niger Delta was one of the main reasons why I selected the region as a case study. I had experienced firsthand the developmental challenges faced by the people and had established contacts which I considered would be useful for the research process. The other reasons include the fact that the region is currently attracting national and international attention as development practitioners and the government explore ways to bring peace and sustainable development to a region that is experiencing abject poverty, increasing violence and conflicts with militant insurgencies and youth restiveness by the citizens who are agitating for a more sustainable future for their people and who view this as their rights as the landlords of the oil reserves for which the nation derives over 90% of its income. More importantly the sustainability of indigenous communities in the Niger Delta is currently being threatened as a result of an influx of multinational companies, a large expatriate population and migrants from other parts of Nigeria who are there to partake of a share in the oil resources located in the region.

My exposure to these two worlds greatly influenced my methodological design. The personal experience of living in a developing country meant that the first issue I observed as I began my review of the literature on the subject area was that there was a wide gap between the rhetoric in the literature and the realities on the ground. So, from the beginning of the research, I decided to try to fill this gap by designing a methodology that presented the multiple realities and the context of the people, actively involving participants in the research process and presenting a rich picture of the social context of the people living in the Niger Delta region. I chose a phased fieldwork program to enable me connect these realities with the literature and to enable me to design the most appropriate methodology that would effectively achieve the research goals and fill the gaps I had identified in the literature. Being an insider also meant that the research provided a context within which I could test the data gathered against my historical and personal knowledge of the region and this increased the reflection I could bring to the emerging theory I was

developing. Also, since I was very aware of the power relations within communities and have extensive knowledge about the territory, and the unspoken agenda of certain groups, this affected the way I conducted enquiries. For example, my awareness of the revered role of community leaders and their influence in the communities, meant that I approached my research participants and structured focus group discussions with this sensitivity in mind. The multi-phased field work approach adopted was extremely useful because it allowed for a more holistic, flexible, and rigorous research.

Returning to Nigeria to conduct fieldwork raised several issues for me because what constitutes the 'field' versus 'home' is a problematic distinction. It was not exactly returning 'home'. The field sites were different from the metropolitan city of Lagos, where I was raised; the socio-economic context was also quite different and I had to approach it with an outsider perspective in order to maintain a certain level of distance for the purposes of objectivity. Yet I had strong family ties to certain field sites such as Akwa Ibom state, where many of my relatives still live and I was very familiar with such settings. This made me simultaneously an insider and outsider, both and neither (Gilbert 1994; Mullings 1999), and presented me with different dynamics, in terms of concerns of insider-outsider and politics of representation, social differences beyond nationality or ethnicity and ethical concerns. People placed me in certain categories, sometimes adopting a subservient position because of my background as a citizen who was viewed as rich, with a Western education and higher social class. Research participants tended to adopt a deferential attitude because I was viewed as educated, urban based and knowledgeable about the field. Participants assumed that my knowledge was superior and looked to me to validate their ideas. I was always engaged in a reflective exercise about separating my own feelings and notions about the development of the region about which I felt strongly and what my participants were telling me. I had to respect the people and assist in the inquiry without imposing my will. The uncertainty and tensions of subjective positions were always within me, as I simultaneously feel a part of and apart from. I constantly considered the ethics of the research process, and how I negotiated the relationships with my participants because there was always a danger that I might have excessively dominated and manipulated the voices of the poor and marginalised. These relationships were negotiated on a continual basis to ensure an appropriate balance in my relations with the research participants. Nonetheless, our shared attributes such as my nationality,

ethnicity, attire, ability to engage in regular conversation in the local dialect and Pidgin English enabled me to bridge gaps and be accepted.

Being an insider presented certain benefits. Kincheloe (1991) notes that the strength of insider research is the knowledge the researcher brings concerning the history and cultures, awareness of body language, connotations and slogan systems operating within the cultural context of the group under study which may be undiscoverable to outsiders (Ball, 1997). Being an insider had three distinct influences. First, the participants and I share a deeply embedded historical knowledge which I understand and take for granted and this aided my acceptance by the participants. Second, now that I am not just an insider but also a researcher, I had to initiate a process of self interpretation with my change in role in relation to my research participants. This meant that I was always engaged with self-critical introspection and the self-conscious scrutiny of myself as researcher. Third, the awareness of the history, culture and personal relationships which are interwoven with this history was also a defining element in the way my interviews and focus group formats were structured, because in a sense I am still a part of the unfolding history of the Niger Delta. I did not have to work hard to be accepted because participants viewed me as one of them. In a couple of sites I was actually referred to as ‘our daughter’, which in African terms means you are one of them. This opened up many opportunities for access to information and some privileged information from community leaders which I would not have been privy to had I been an outsider. Being an insider also enriched the ethnographic approach adopted during the research because I was better able to blend in unobtrusively and observe research participants in ways that did not require them to change behaviour as they would if an outsider or white researcher was doing the research. Trust and rapport are crucial to the success of case study research (Glesne, 1989; Marshall and Rossman, 1989) and this was evident in my research because of the personal connections I have within the region. This also, though, presented some ethical concerns for me because the line in making distinctions between what information was given to me for the purposes of my research and what information participants gave to me because I was an insider with implied trust was blurred. There were many instances when a participant would say “please don’t write that one down, I am just telling you because you are one of us” or “don’t tell anyone this”. In such cases I would explain again what my research is about

and what kind of information was relevant, and once participants were informed that their names would be left out, most usually gave consent for the information to be used.

One of the major risks identified by Edwards (2002) with being an insider is the tendency to overlook the familiar. The tacit understanding which I have known for a long period of time has become familiar to me. Basic details which an outsider may immediately pick up and question may not have been immediately obvious to me because it is familiar, and taken for granted. This familiarity can produce what Edwards (2002) refer to as data blindness or myopia. While I acknowledged this possibility after the first phase of the field work, I do not know to what extent this has affected the inquiry process. The material is commonplace and normal to me, so that it is possible that I may have missed certain nuances, subtleties and the obvious could have escaped my observation which an outsider may have noticed.

I have no doubt that my personal context influenced the research process and outcomes and had a different researcher who was just an ‘outsider’ conducted the same research they would be likely to have arrived at different conclusions.

1.5 SUMMARY AND LAYOUT OF THESIS

The thesis is structured in eight chapters. Following this introductory chapter, Chapter 2 provides a conceptual framework and reviews relevant literature drawn mostly from three theoretical fields: sustainability, communities, and ICT for development. It discusses debates surrounding the sustainability agenda, paying particular attention to the intersection between ideas of ‘Sustainable Communities’ and ‘ICTs for Development’, their definitions and implications. It also reviews underlying themes of culture in development, indigenous knowledge systems, participatory communication and social structure versus agency. The chapter concludes with a conceptual framework for the research, highlighting key issues from the literature with which my research grapples.

Chapter 3 outlines the methodological foundations that directed the course of action for my research. I outline the overarching approach of the research, making explicit my philosophical assumptions for both the data collection process and the subsequent analysis. I then drill down to the specific research design and present the hybrid ethnographic model

adopted. The investigative framework and data collection methods are discussed. It also documents the analytical processes through which the data was fractured, conceptualized, and integrated to form theory, and provides details of the bottom-up coding procedure applied in the research. Chapter 4 sets the context of my research by providing background information about Nigeria and the Niger Delta region, focusing on the ICT situation in particular. It presents an overview of the Niger Delta focusing on the developmental context and community related challenges as well as a profile of my research sites.

Having established the conceptual context, the methods adopted, and my research area, the following three chapters provide the empirical analysis. Due to the cyclical and complex nature of my methodology, I present a text box at the end of each empirical chapter which details my reflective process on the outcome from each of the phases of my fieldwork, how the preceding phase informs the next and what literatures I engaged with as I tried to make sense of the data generated. They act as linking sections between Chapters 5, 6 & 7.

Chapter 5 presents the findings from the empirical research on understanding the local conceptions of community in the Niger Delta and the socio-cultural context of these communities. It presents local constructions about the notions of community and sustainability in the Niger Delta and provides a foundation for the study of the communicative ecology which is presented subsequently. Chapter 6 provides insights into the devices and connecting media that make up this communicative ecology of the Niger Delta by exploring the web of interpersonal and media connections that people construct in the course of everyday life by examining ICT media in context, so as to be able to assess their relative importance. It also explores the technologies, identifying how and which ICT media are currently being used and why. It includes an analysis of factors that influence ICTs with a view to identifying the most appropriate technologies or blend of technologies for Niger Delta communities. The chapter highlights the interplay between the social context and ICTs. Chapter 7 documents the analysis and findings of the action research conducted in the Niger Delta conducted during the final phase of my field research. It documents the format and process of the action research, outlining the agenda and presents a discussion of key themes, situating these in the wider context of the literature on ICT for

development. An integrated media framework is presented that could be implemented to support the social sustainability of communities adapted to local conditions.

Finally, Chapter 8 summarises the key findings of the research with respect to each of the main research questions noted in this introductory chapter. It also highlights the main contributions that this thesis has sought to contribute to knowledge. It concludes with recommendations for future research directions.

Chapter Two: Conceptual Framework: Sustainability, Communities and ICT4D

2.1 INTRODUCTION

This chapter provides a conceptual framework that focuses on the debates surrounding the sustainability agenda, paying particular attention to the intersection between ideas of ‘Sustainability’, ‘Communities’ and ‘ICTs for Development’, their definitions and implications, as well as critiques thereof.

Information and communication technology (ICT) for sustainable communities is a knowledge territory that engages with three main bodies of literature: *Sustainable Development*; *Community Studies*; and *Information and Communication Technology for Development*. This chapter draws upon these three bodies of literature. A central feature of my research was that it was designed in a cyclical phased structure where these literatures were revisited at the end of each phase to explore further concepts that emerged during the course of the research based on grounded theory strategies. As the research evolved other related issues such as the role of *knowledge and information, indigenous knowledge systems, structure versus agency* and the importance of *cultural factors* were incorporated into the conceptual framework to provide a more robust context for the research.

This chapter is structured into four major sections. Underlying the knowledge territory of ICT for sustainable communities are four key principles in development policy and practice: the importance of culture in development, indigenous knowledge systems, participatory communication, and the distinction between information and knowledge. The first part of this chapter, examines how indigenous engagements with development have recently been transformed and opened up opportunities for empirical research such as this. Information, knowledge and communication are also core elements of sustainable development (Weigel, 2004) and there have been major changes with regards to information flows and communications effected by ICTs. Below, I provide an overview of the important aspects of these issues in order to situate this research within this wider context.

In the second part of this chapter, I introduce the concept of sustainability. There is already a rich discussion on sustainable development; here, I provide a brief review of this literature with a particular focus on social sustainability as it relates to communities, with the aim of providing an overview of the development of the concept itself and gathering significant opinions to establish a contextual framework for the research. This builds upon the most commonly used definition of sustainable development by the Brundtland Commission “development that meets the needs of the present without compromising the ability of future generation to meet their own needs” (WCED, 1987). It does not intend to deal with the all encompassing question of sustainable development in general; rather it focuses on the internal, social perspective of sustainability. Second, the local-global relations involved with sustainability are discussed, and attention thereafter turns to discourses on sustainable communities and the nature of community. The rhetoric of ‘community’ implies that communities are homogenous and easy to identify. The reality on the ground, though, is that communities are made up of socially different groups and they are not clearly bounded or easy to locate and demarcate (Leach, Mearns and Scoones, 1997; Guijt and Shah, 1998; Agrawal and Gibson, 1999). The notion of ‘communities’ is a major focus of this research, and this section therefore explores the rich nature of community and differing perspectives and definitions concerning this term. It includes a discussion of the structure/agency debate, focusing on Giddens’ (1984) structuration theory, which, argues that there is a duality as opposed to a tension or dualism between individuals and social structure. As a result of this duality, the structural properties in a social system can serve as both enabling and constraining forces (Giddens, 1984). Structuration theory provides a language to understand how communities can exercise agency or have some kind of control over the lives of people, and thereby informs us how social change can be achieved. The theory of structuration provides a key to understanding the social aspects of sustainability and can offer a new way of looking at socio-cultural context and ICT adoption in communities.

The third part of this chapter consists of a theoretical discussion of the role of ICT in development. The purpose here is not to review a stream of work in ICT for development, since such reviews exist elsewhere (see for example, Avgerou, 1998; Licker, 1998; Bhatnagar and Schwabe, 2000; Heeks, 2002b; Weigel, 2004; Unwin, 2009). Rather the

focus is on current development models in ICT for Development and their implications for developing countries. It delves into the role of ICT in communities and its impact on development, going beyond the infrastructure and modalities of gaining access to ICTs, to try to determine how ICTs can ‘add value’ to grassroots communities and the development processes they are implementing. This section provides a framework for thinking about ICTs and sustainability that is a basis for defining the aims of this research.

In the final part, I present an overall conceptual framework for the research, highlighting key themes and threads arising from the previous discussion and pulling these together to define the research agenda. The framework then outlines the key issues highlighted from the literature on which my research focuses. This outline is then used to frame the research questions to be answered in this research.

2.2 DEVELOPMENT THINKING AND PRACTICE

In this section I build on the short discussion in Chapter 1 (see Section 1:3) to discuss key concepts in development practice that have relevance for this research. I start with culture, because my research takes a holistic approach that considers the context that people live as important in the analysis of ICT for development. This cultural factor has led to a greater consideration of indigenous knowledge systems in development practice, and so I discuss indigenous systems in detail. I then explore the role that information and knowledge play in development.

2.2.1 Culture: A Factor in Development Thinking

Culture has recently acquired a new visibility and prominence in development thinking and practice (Chua, *et al.*, 2000; Schech and Haggis 2000) and has been termed by Kliksberg (1999: 84) as “the new development debate”. Over two decades ago, Worsely (1984) suggested that culture was the ‘missing concept’ in development thinking, and the emergence of culture at the heart of mainstream development debates has been a core feature of the field since the late 1990s (Worsely, 1999:41; Escobar, 1995; Verhelst, 1990). This thinking has evolved in both the sustainable development and ICT for development debates, where practitioners in both fields now accept that one cannot speak about development without considering the role that culture plays (Main, 2001; Tucker, 1997).

Among a broad group of development practitioners, a general agreement exists that “culture in its broadest sense needs to be brought into the development paradigm” (Davis 1999: 25). Cultural difference is now treated explicitly as a significant variable in the success of development interventions (Rao and Walton, 2004). Here, I therefore explore the concept of culture as a factor in development practice and draw attention to differences, ethnicity, community, identity, local diversity, indigenous practices and conflicts around these.

Radcliffe (2006) outlines five main reasons that explain development’s ‘cultural turn’ and the recent prominence of culture as a key concept in development thinking. These are: the failure of previous development paradigms; perceptions of globalization’s threat to cultural diversity; activism around social difference (gender, ethnicity, anti-racism); the development success stories in East Asia; and the need for social cohesion. She notes however that these views are not found together and even one reason for taking culture seriously covers a number of different political, analytical or ideological perspectives. Similarly Nurse (2004) argues that culture should be viewed as an additional pillar of sustainable development, because peoples’ identities, signifying systems, cosmologies and epistemic frameworks shape how the environment is viewed and lived in. Culture is a critically important aspect of sustainable communities, and Deruyttere (1997:9) argues that “strengthening cultural identity and sustainable development are mutually reinforcing”. These arguments underscore the fact that culture shapes what we mean by development and determines how people act in the world.

Prominent in discussions about culture in development are concerns about the homogenizing cultural effects of globalization. In the words of UNESCO (1998:22), a “danger looms of a uniform global culture”. Leach (1998: 103) thus argues that

Global environmentalism and its supportive science come to be seen as at least partly the product of particular, Western-dominated cultural traditions and relations of power. The imposition of global orthodoxies and analysis over different environmental values and notions of sustainability can infringe not only on local livelihoods, but also on cultural freedom, in a deeply decivilizing process.

Voices from the global South also raise the threat of the loss of cultural diversity. Indigenous people have argued, through international forums such as the United Nations Permanent Forum on Indigenous Issues and the Convention on Biological Diversity (UNEP, 1998), that there should be *four* pillars of sustainable development, the fourth being cultural. There is an increasing awareness that the protection and promotion of cultural diversity is vital to universal human rights.

African scholars have also concerned themselves with the question of the retention or loss of cultural identity under conditions of contemporary information and communication technology (Mazrui, 1978; Gyekye, 1997; Hountondji, 1994). As early as the late 1970s, the prominent political philosopher Ali Mazrui (a Kenyan, now at the State University of New York, USA) regarded the computer as a 'cultural transplant' from the North, alien to the societies and cultures of Africa and only capable of having a devastating or subjugating effect in the African context. Jules-Rosette (1990) summarizes Mazrui's view by arguing that the imported nature of the computer might badly fit the tasks and orientation of non-western workers, and as a result it may form a source of socio-cultural disruption, increasing economic dependency and introducing modes of thought which are alien to the working environment in which the computer is being used. This point of view has been supported by the Ghanaian philosopher Kwame Gyekye (1997: 37), who stated that "Ideally, technology, as a cultural product, should rise from the culture of a people, if it is to be directly accessible to a large section of the population and its nuances are to be fully appreciated by them". In Africa, the erosion of cultural heritage under the experience of development is argued to "precipitate development crisis" causing alienation and disorientation for ordinary Africans (Yakubu 2002: 8-9). Similarly, Prah (2001: 96) argues that "the brooding presence of western culture [in Africa] is singularly blighting and fossilizing indigenous cultures".

The impact and interaction of ICTs and African culture is complex. Researchers have tried to analyse these complexities and some like Blake (1992) believed that, even though African nations have different attitudes towards cultural regeneration and dissemination, the continent is struggling to 'get a handle on' the complex role and position of culture in order to forge ahead with its development agenda and find its position in the global information revolution. Sardar (1999) writing from an Islamic perspective provides

an incisive and challenging critique dismissing development as the imposition of western values in the guise of a discipline. He argues that substitutes for the idea of development will come from the efforts and struggles each civilization undertakes to define its own identity in terms of its own notions and categories. Mainstream notions of development are usually formed within the confines of modernization theories that give precedence to the image and vision of development created in the ideals of western technological civilization that is often promoted as the 'universal' and the 'obvious' (Escobar, 1995). This legitimizes modern western values and delegitimizes alternative value systems, thereby constructing a global cultural asymmetry between the 'West' and the 'rest' (Aseneiro 1985; Banuri 1990). The assumed superiority of European and American originated discourses of modernisation poses important questions with regard to the power relations involved in production of knowledge and meanings. When groups of people are stripped of their identity, they are no longer capable of self-determination. They become a people whose future and past are shaped by others, and whose projects, dreams, values and meaning are supplied by others. Development practice now contains a more proactive vision of incorporating a cultural dimension into the development process itself (Davis, 1999:27; see also World Bank, 2004, UNDP, 2004; UNESCO, 2003). Such a 'cultural lens' places culture at the centre of development, viewing it as neither inherently damaging nor beneficial (Rao and Watson, 2004).

However, while the culture and development debate may offer some corrective to existing development discourse, Pieterse (1995:190) warns that there should be "a fine sense of balance that does not yield to a future mapped from above, nor to nostalgia for the rear exit, but a new sense of balance between universalism and localism". He says our response should not be a simple matter of "add culture and stir" (Pieterse, 1995: 184). Sen (2004: 55) supports this notion and adds that the "import of culture cannot be instantly translated into readymade theories of cultural causation".

From the arguments presented above, it is clear that development should be more than the simple transfer of economic and technological processes from one part of the world (developed) to other parts of the world (underdeveloped). From a cultural perspective there is a need to consider people's values, ideas and beliefs, their identities and feelings, how they view the world and their place in it, as well as what is meaningful

to them. This research adopts such an approach, and the methodological design explicitly seeks to reflect this (see Chapter 3). I argue that without consideration of culture, which essentially has to do with people's control over their destinies, their ability to name the world in a way which reflects their particular experience, development is simply a global process of social engineering where the more powerful control and shape the lives of others for their purposes. Where people's beliefs, ideas, meanings and feelings, in essence, their culture, is not taken into consideration and respected, one cannot speak of true human development. These issues are critically important elements for sustainable development and the local appropriation of ICTs. Culture is an essential aspect in development for Africa and is one of the reasons why this research explores ICT adoption for sustainable development from a socio-cultural perspective.

2.2.2 The Development Case for Indigenous Knowledge

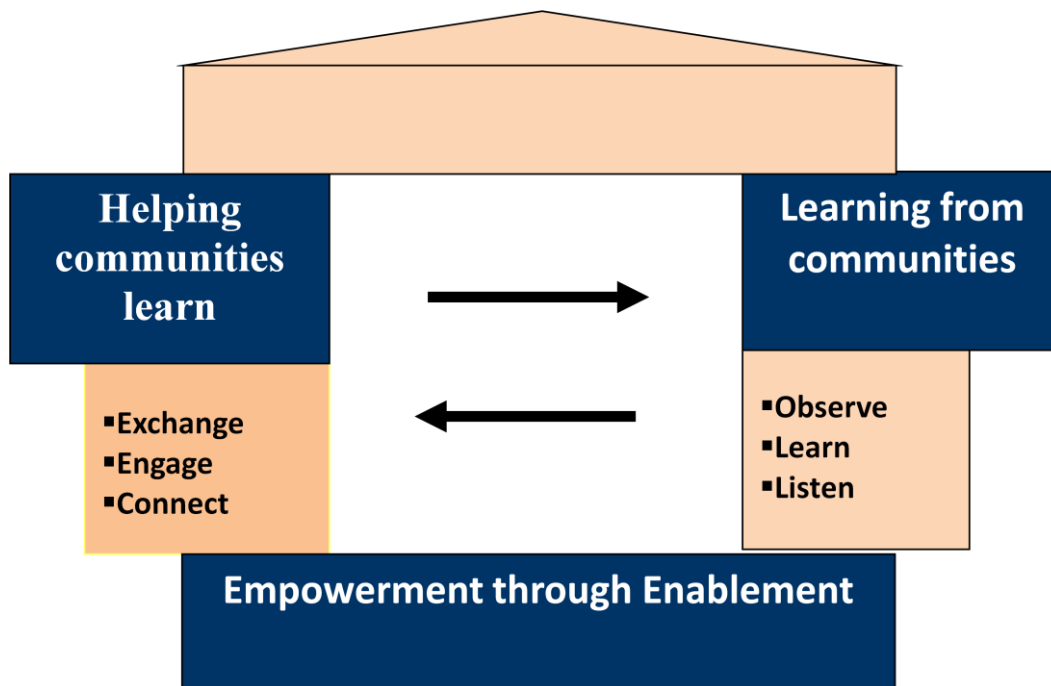
As a consequence of the repositioning of culture in development thinking and practice (Chua, *et al.*, 2000; Schech and Haggis 2000), it is increasingly being realised that there is a need to include indigenous peoples in the development of programs that affect them (Warren *et al.*, 1995, Hanna *et al.*, 1996, UNEP, 1998). This has been informed by the recognition that they possess tacit knowledge that is beneficial to the development process, however that is defined. This knowledge is frequently referred to as indigenous, traditional or local knowledge. Here, I refer to it as indigenous knowledge because this term has emerged in the last two decades to describe the knowledge of a group of people local to a given situation (Ellen and Harris, 2000). It is the unique, traditional, local knowledge existing within and developed around the specific conditions of men and women indigenous to a particular geographic area (Grenier, 1998). There is consensus amongst scientists that such knowledge: i) is linked to a specific place, culture or society; ii) is dynamic in nature; iii) belongs to groups of people who live in close contact with natural systems; and iv) contrasts with modern or Western formal scientific knowledge (Studley, 1998). In the same vein, Ellen and Harris (2000) present a checklist of characteristics that anthropologists and others have associated with indigenous knowledge including attributions emphasizing the empirical, practical, applied and situated (contextual and geographical) nature of indigenous knowledge, together with aspects such as oral transmission, informality and fragmentary distribution. In their conclusions, it is this latter group that forms the prototype:

We believe that indigenous knowledge, in the sense of tacit, intuitive, experiential, informal, uncodified knowledge, will always be necessary and will always be generated, since, however much we come to rely on literate knowledge which has authority, has the validation of technical experts and is systematically available, there will always be an interface between this kind of expert knowledge and real world situations. It will always have to be translated and adapted to local situations and will still depend on what individuals know and reconfigure culturally, independently of formal and book knowledge (Ellen and Harris 2000: 28).

Indigenous knowledge refers to the large body of knowledge and skills that has been developed outside the formal educational system and that enables communities to survive. Indigenous knowledge is local knowledge, which provides problem-solving strategies for communities. For this reasons, it is generally knowledge shared within a community rather than held by individuals. This is why it is such an important concept for this thesis which seeks to address the transmission of knowledge within sustainable communities. The main goal for utilising indigenous knowledge is to learn from the knowledge embedded in the practices of local communities and build bridges between modern, scientific knowledge and traditional knowledge. Building on traditional knowledge requires two processes, one is to learn from communities and the other is to help communities learn (Gorjestani, 2000) (Figure 2.1).

The focus here on indigenous knowledge represents a shift away from the preoccupation with the centralized, technically oriented solutions of much past development practice, especially that within the field of ICT4D, which failed to improve the prospects of most of the world's poor. By highlighting the possible contribution to be made by the knowledge that is in the hands of the marginalized poor, current literature focuses both attention and resources on those who most need them.

FIGURE 2.1: Building on Indigenous Knowledge Systems



Source: Adapted from Gorjestani (2000).

Gorjestani (2000) highlights the benefits of indigenous knowledge, and argues that it could help to increase efficiency - because it is cost-effective and uses appropriate technology; effectiveness - because it is locally managed and reaches the poor; and sustainability - because it provides for mutual adaptation and learning, and empowers local communities. Consequently indigenous knowledge should help:

- empower communities to use global and local knowledge
- connect communities to one another and to other sources of experience
- learn with them what works in a given setting and facilitate adaptation with modern technology

In the fields of ICT4D and sustainable development, building on indigenous knowledge is being used successfully to deliver solutions for poor and marginalized people (see for example Servaes and Liu, 2007; Tacchi *et al.*, 2002). My research adopts this strategy and seeks to learn from the studied communities about their information and communication practices and also to help them learn about modern practices as they relate to ICT for development.

2.2.3 Communication for Development

The concept of communication for development has been interpreted and applied in many different ways since Lerner's (1958) influential study of communication and development in the Middle East. Since then, communication researchers have often assumed that the introduction of media and certain types of educational, political and economic information into a social system can transform individuals and societies from traditional to modern. The media were seen as acting as magic multipliers, able to accelerate and magnify the benefits of development and conceived as having a fairly direct and powerful effect on Third World audiences (Fair, 1989). Early models in the 1950s and 1960s saw the communication process simply as the flow of a message from the sender to a receiver. The focus was thus mainly sender and media-centric. Beginning in the late 1970s and early 1980s, though, an alternative approach to development was proposed. This stressed the need to listen to and involve those people in development process for whom the project were implemented. Within this context, Freire's (1998, 1973) ideas about participation led practitioners to rethink the role of communication, not as information dissemination, but as a two-way process. Freire (1998) thus emphasized the importance of a dialogue between the community and the development practitioners with active participation by the community in the social change programs. Since then, communication has become more focused on the receiver and the message (Melkote and Steeves, 2001; Servaes, 1999). The focus is now more on the process of communication (the exchange of meanings) and on the significance of the process (the social relationships created by communication and the social structures and context which result from such relationships). This type of communication "favours multiplicity, smallness of scale, locality, de-institutionalisation, interchange of sender-receiver roles and horizontality of communication links at all levels of society" (McQuail, 1983: 97). Therefore, many contemporary models for development rely on communication as a means to empower communities.

Participatory communication grew out of the realization that beneficiaries need to be involved in the development programs that are meant for them. This means modifying power and social change interventions to reflect people's real needs (Melkote and Steeves, 2001; Servaes, 1999; Servaes *et al.*, 1996; Wilkins, 2000). As a result the focus has moved from the communicator to the receiver, with the resultant emphasis being on meaning sought and ascribed rather than information transmitted. With this shift in focus, one is no

longer attempting to create a need for the information that is being disseminated, but rather information is being disseminated for which there is a need. The emphasis is on information exchange rather than on the persuasion implied in the diffusion model which suggested that the flow of information is one way from a higher to a lower level. Lerner's (1958) modernization theory based on a top down approach has disappeared from current literature, and instead the most frequently used theoretical framework has become participatory communication. Scholars now make links between culture and communication with a conception of communication as shared meanings, versus information transmission or persuasion (Carey 1989). Melkote and Steeves (2001) state that communication is the maintenance, modification and creation of culture and argue that in this sense, the processes and institutions of communication, of culture and of development are all woven together. It becomes impossible to think of communication as predominantly a process of information transmission. This emphasizes concepts such as cultural identity and the recognition of specific local cultures as opposed to a single Western dominated capitalistic culture promoted in the modernization era, or the emphasis on self-reliance and ethnocentrism that was promoted as part of the dependency theory (Melkote and Steeves, 2001).

Participatory communication for development is based on the foundation that development programs will be more relevant, effective and sustainable, if people are actively involved in them. It emphasizes the need to empower communities through communicative means to help them gain control over their environment and resources (Melkote and Steeves, 2001). Some recent efforts to explain participatory communication have used Habermas's (1987) theory of communicative action which defines and theoretically treats participatory communication as "action oriented toward understanding" (Jacobson, 2003:107), and communitarian theory, which focuses on "preservation of the community and emancipation from oppressive structures and external dependencies" (Melkote and Steeves, 2001: 334).

Today, the interactive nature of communication is increasingly recognised (Melkote and Steeves, 2001; Servaes, 1999; Wilkins, 2000; Jacobson, 2003; Weigel, 2004). It is viewed as a social process that starts with the beneficiaries and brings together both groups in a two-way sharing of information among communication equals. This approach

highlights the importance of cultural identity, concerted action and dialogue, local knowledge and stakeholder participation at all levels. This process is usually facilitated by outsiders engaging a community in a dialogue to identify the community's problems, provide the necessary resources, information or skills to overcome the problem, and in turn allow people to gain control over their lives (Figuerola *et al.*, 2002). My research adopts this approach in studying communities in the Niger Delta.

2.2.4 Information and Knowledge for Development

The terms 'Information' and 'Knowledge' are often used simultaneously and sometimes interchangeably in discourses on development. Information and knowledge can be used very broadly and other times quite specifically depending on the argument being made. They are interdependent but with distinct differences. In general, the definitions of information tend to be far more uniform and less complex than the definitions of knowledge. Information is usually defined as: 'Organized data' (Saint-Onge, 2002); 'Data endowed with relevance and purpose' (Drucker, 2001); 'Interpreted data' (Probst *et al.*, 2002). These scholars define information as a set of data, facts, and figures that have been processed in such a way that they become meaningful. Defining knowledge, however, is a much more complex task. Davenport and Prusak (1998) define knowledge as a mix of fluid experiences, values, contextual information and intuition that provides a structure to evaluate and incorporate new experiences and information. It originates and is applied in the minds of individuals. This is similar to Nonaka and Takeuchi's (1995) definition of knowledge as true and justified belief. Weigel (2004:20) notes that "Knowledge is based on information, but it is linked to a specific local context from which it derives its value. It also has a human dimension of personal ownership". In general, most authors point to the complexity of knowledge compared to information. The key difference can be summarized by the role played by human beings. In the case of knowledge, individuals play a prominent role as creators, carriers, conveyors and users. In contrast, in the case of information, these same functions can occur outside of the humans and without their direct influence. In discussing information and knowledge, Mchombu (2004) proposes that it is useful to start by observing that both are social constructs. They are designed to explain and meet some of the challenges that individuals or groups face at a particular time and place. He argues that no one can fully understand the meaning of knowledge and information without recognizing that they can be a double-edged sword that can be used to

empower the individual or the group. They can also be used to maintain relations of power and control. When a ruling group uses information and knowledge to dominate or control people, those people may be led to despair, powerlessness, and unsustainable lifestyles because as human creations, people use information and knowledge to organize their view of history and culture. Mchombu (2004) further observes that the role of information in the people-centred development approach is very different from the role of information in the modernization or economic growth model of development. He suggests that the major differences are:

- a) Access to information is for all groups in the society (including women, youth, and rural and urban poor people);
- b) Information is a tool and access to information is a process for building self-reliance, empowerment, civil society, participation and gender equality;
- c) Indigenous or traditional knowledge and locally-generated information are given high status;
- d) Traditional channels of communication are respected and not regarded as a barrier to development (Mchombu, 2004).

The central feature at the heart of the knowledge revolution is that information is instantaneously accessible; it is transportable and can be simultaneously distributed to an unlimited number of users. Access to information and knowledge are closely linked to the availability of ICTs. ECOSOC (2000) state that ICTs serve as a transmission belt to generate, access, disseminate and share knowledge, data, information, and communications and best practices. The implication here is that lack of access to ICTs can be equated to the lack of information and consequently lack of knowledge. This has led to the categorization of groups of people as 'information poor' or 'information rich'. The *information rich* have good access to information - especially online, but also through more traditional media such as newspapers, radio, television, and books - and can plan their lives and react to changes in circumstances on the basis of what they know or can find out. The *information poor* do not have such access and are vulnerable to all kinds of pressures.

The concept of 'information-poverty' as the dominant new form of poverty in the information society has been linked to other forms of poverty. Proponents of this view

(d'Orville, 2000; World Bank, 1999) argue that developing countries are largely left behind and are little more than fringe players at best, observers at worst of the dynamics and benefits enjoyed by many industrialised countries. Indeed, a new type of poverty - information poverty - begins to afflict developing countries. ICTs are thus given a place alongside adequate food, health care, education, and other fundamentals. Those people or countries who cannot or will not participate fully in the new information economy will find it all the more difficult to climb out of poverty (d'Orville, 2000).

In the ICT for development discourse, emphasis is frequently placed on providing the poor access to ICTs before analyzing the value information and knowledge exchanges play for development at the local level (Black, 1999; Mansell, 1998; Norris, 2001, Unwin, 2009). The importance of traditional information systems, which are based on indigenous knowledge and traditional communication practices, are hereby frequently omitted (Mchombu, 2004). For instance, the World Development Report 1998 stressed the critical value that knowledge plays for development (World Bank, 1999). While the report recognizes that there exist many types of knowledge, it focuses only on two—technical knowledge (in health, agriculture, accounting) and knowledge about attributes (such as the quality of products, the credibility of a borrower). It emphasizes the importance of closing the 'knowledge gaps' and overcoming information problems in developing countries in order to improve the living conditions of the poor. The report emphasizes that the transfer of knowledge from the 'North' to the 'South' is fundamental for development and omits the important role that indigenous and local knowledge can play for sustainable development. This view of knowledge transfer is based on a top-down or supply-led approach, which identifies the lack of information and knowledge at the local level as an important reason for poverty in developing countries. Based on this conceptualization of the role of information and knowledge for development, ICT proponents (Walsham and Sahay, 2006; Soeftestad and Sein, 2003) frequently highlight the threats of an increasing 'digital divide' and advocate for the rapid provision of modern forms of ICTs (Internet, cell phones, videoconferencing) to poor communities in order to enable them to overcome these existing information gaps. This shows a lack of understanding of the contested nature of knowledge and of the existence of various knowledge systems and practices (see Marglin, 1990; Hobart, 1993; Heeks, 2002a).

Also important is the observation that information tends to be generated in and for a specific context, which means that it is not necessarily relevant or needed in another context. The development industry produces knowledge of the underdeveloped and also the means of addressing the problem of underdevelopment. Hobart (1993) argues that this simultaneously produces ignorance, since the underdeveloped are positioned such that they come to depend on the information and knowledge of the development experts to assist them in their quest for progress and catch-up. The result is that the wealth of local understandings, knowledge and experience that could potentially aid development efforts is often devalued and their potential contribution to change processes thus wasted. My research draws on this line of critique and applies it to the focus on ICTs and sustainable development by adopting a strategy that builds on indigenous knowledge systems that have become increasingly important in debates about development at international, national and local levels.

2.3 SUSTAINABILITY

2.3.1 Definition and Perspectives

There are many differing definitions of the concept of sustainability (Gatto, 1995; Allen *et al.*, 1991). The World Commission on Environment and Development (WCED), in its 1987 report entitled, *Our Common future* states that: “Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generation to meet their own needs” (WCED, 1987). This definition has broad appeal and little specificity, but some combination of development and environment is found in most attempts to describe sustainable development. This definition has been accepted as *de facto* ever since. Since then, there has been a mass of literature generated in various fields which has resulted in more specific application of the concept, such as sustainable agriculture, sustainable livelihoods, and sustainable transport (see for example, Guijt, 1998; Carney, 2002; Litman and Burwell, 2003).

Serageldin (1993:2) observes that sustainability is fundamentally about the choices that people make and the associated consequences and thus notes that “people are the instruments and beneficiaries, as well as the victims of all development activities”. Over

the years, the interest and scope of the sustainable development debate has grown substantially and this has led to an increasing diversity of interpretations.

In 1992, at the Earth Summit in Rio de Janeiro, which proclaimed the primacy of sustainability and also that sustainability needs to be considered fully from its social, economic and environmental dimensions (Larson, 1994) saw 179 countries endorse Agenda 21, a cross-national agreement on working towards 'sustainable development'. Local authorities in signatory countries were asked to prepare, by 1996, Local Agenda 21 (LA 21) plans, setting out policies and action to realise the objectives of Agenda 21 within their area of responsibility. Agenda 21 challenges local authorities to adopt policy goals encompassing not only sustainable development but also incorporating participative, collaborative processes, which involve local communities in defining their own sustainable futures.

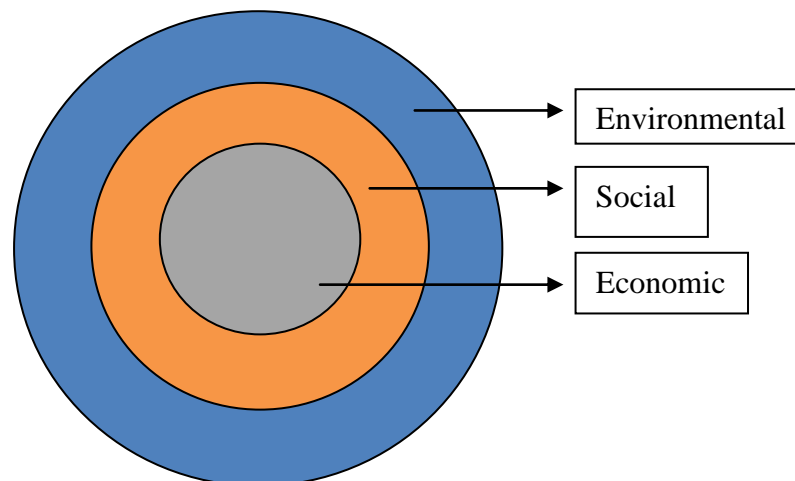
Agenda 21 contains many references to community participation in sustainable development among which are (italics added):

- An effective strategy for tackling the problems of poverty development and environment simultaneously should begin by focusing on resources, production and *people* and should cover demographic issues, enhanced healthcare and education, the rights of women, the role of youth and of *indigenous people* and *local communities* and a *democratic participation process* in association with improved governance (Agenda 21, 3.2).
- Governments, in cooperation with appropriate international and non-governmental organisations, *should support a community driven approach to sustainability* (Agenda 21, 3.7).
- It is particularly important to *focus capacity building at the local level in order to support a community driven approach to sustainability and to establish and strengthen mechanisms to allow sharing of experience and knowledge* between community groups at national and international levels (Agenda 21, 3.12).

A universal challenge at the heart of the LA 21 process, is translating global ideals on sustainable development into locally defined actions. This has been more difficult than the positive pronouncements from Rio seemed to acknowledge. Sustainability and

sustainable development is generally modelled on the following three pillars that have been used to facilitate the comprehension of the term: environmental (conservation), economic (growth), and social (equity) dimensions. It is most often conceptualised in the literature in two ways (Barron and Gauntlett, 2002; McKenzie, 2004): the concentric model of sustainability (Figure 2.2) and the overlapping model of sustainability (Figure 2.3). The concentric model provides a representation of how the relationship between the environmental, social and economic spheres should be understood, portraying their mutual interdependence and our ultimate reliance of the social and economic spheres on the physical environment. The environment encompasses the other two spheres and this give pre-eminence to the physical environment over the other two.

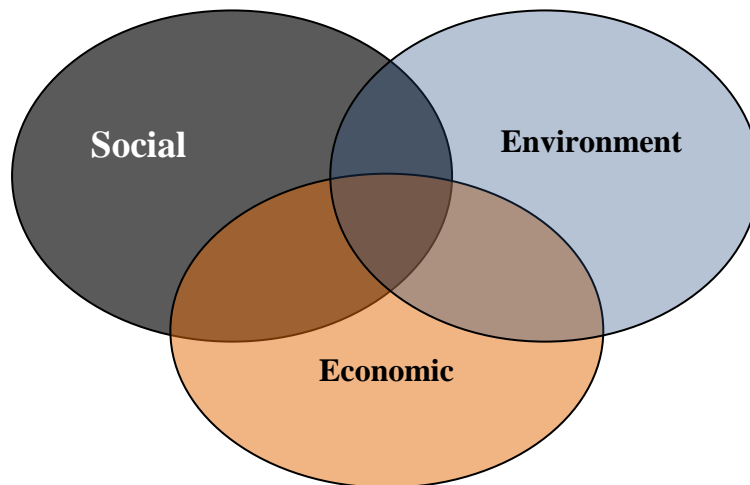
FIGURE 2.2: Concentric Circles Model of Sustainability



Source: Adapted from Barron and Gauntlett (2002)

A more recent and widely accepted mode of thinking is that the three spheres should be viewed as equally dependent of each other and should be represented as such. This is depicted in the overlapping circles model in Figure 2.2. These three spheres or dimensions are often thought of as overlapping and mutually dependent goals: (a) to live in a ways that is environmentally sustainable or viable over the long term: (b) to live in a way that is economically sustainable, maintaining living standards over the long term; and (c) to live in a way that is socially sustainable, now and in the future (Dillard *et al.*, 2009).

FIGURE 2.3: Overlapping Circles Model



Source: Adapted from McKenzie, 2004

Despite the elevation of the social (at least in theory) to equal influence in the sustainability debate, much less attention is generally paid to it than is given to economic and environmental concerns. McKenzie (2004) thus argues that it is a lot more difficult to quantify social sustainability than it is for economic growth or environmental impact, and consequently he suggests that it is the most neglected dimension of the sustainability agenda. He further argues that any all-purpose indicators of social sustainability would be too general to be useful, and specific indicators need to be developed for particular contexts.

The core focus of this research is on the social aspects of sustainability, and it is to this that attention now turns.

2.3.2 The Social Dimension of Sustainability

As noted by some authors, consideration of social aspects of sustainability has been relatively neglected and is by far the least developed dimension of sustainability (Magis and Shinn, 2009; Larsen, 2009; Dujon, 2009, and Mckenzie, 2004). This is particularly so when it comes to its analytical and theoretical underpinnings (Lehtonen, 2004). At present, there is no widely accepted consensus on a definition of social sustainability. This may be due in part to the fact that there is no consensus on what is understood as 'social' in the first place.

There are however some definitions of social sustainability that provide insight into the concept of sustainable communities. Polese and Stren (2000: 229) identify social sustainability as “policies and institutions that have the overall effect of integrating diverse groups and cultural practices in a just and equitable fashion”. These are policies that encourage community involvement and development of local communities (Taylor, 2003).

One of the most complete efforts to define social sustainability and construct a model that covers potential factors that are associated with the concept is documented by McKenzie (2004:21), who argues that “Social sustainability occurs when the formal and informal processes, systems, structures, and relationships actively support the capacity of current and future generations to create healthy and liveable communities. Socially sustainable communities are equitable, diverse, connected, and democratic and provide a good quality of life”. The model then offers a set of principles and characteristics of socially sustainable communities by which these conditions may be achieved. The key principles for social sustainability, identified here include (a) ‘equity’, which highlights community provision of equitable opportunities and outcomes for all its members, particularly the poorest and most vulnerable; (b) diversity; (c) interconnectedness – systems and structures that connect within and outside the community; (d) quality of life – community ensures basic needs are met and fosters a good quality of life for all; and (e) democracy and governance – open and accountable governance structures (McKenzie, 2004). Each principle of this model is followed by a series of characteristics and statements that address it. While this model is an important synthesis of what has been an elusive concept, it is still largely descriptive and aspirational and leaves many questions as to how a community pursues social sustainability as a course of action. It is also based on a western construct that does not sufficiently take into account the poverty, underdevelopment and inequalities that exist in developing countries.

To explore how one can use the construct of social sustainability as an ‘actionable’ concept, the related concept of ‘social capital’ has been proposed (Messer and Kecskes, 2009). The term ‘social capital’ is an attempt to use the analogy of capital to understand the role of social institutions and processes in the economy, and has since become the focus of much attention by community researchers (see Putnam, 1995; 2000; Coleman,

1988; Bourdieu, 1983). Social capital has been defined in different ways, but a general consensus on a definition has been accepted among scholars who use it to refer to “the norms and networks that facilitate collective action” (Woolcock, 2001: 70; see also World Bank, 2007). Stone and Hughes (2002) and Adger (2001) refer to it as the networks of social relations characterised by norms of trust and reciprocity that can improve the efficiency of society by facilitating collective actions. Putnam (1993) defines social capital as a set of horizontal associations between people—social networks and associated norms that have an effect on the productivity of the community. Coleman (1988: 598) synthesizes these and provides a broader definition that describes social capital as “a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors—whether personal or corporate actors—within the structure”. All these definitions suggest that the three core ideas of norms, networks and collective actions are essential features of a sustainable community (Simpson, 2005).

I seek now to highlight those aspects of social capital that can contribute to a framework for understanding the complexities associated with implementing sustainable community initiatives. Although much has been made of the potential usefulness of social capital to better understand aspects of sustainable communities, it remains a contested concept (Rohe, 2004). Nevertheless, there are some commonly held perspectives and assessments of social capital as an essential feature of community processes. Social capital is commonly understood to be composed of norms of reciprocity and mutual trust and as such is integral to the structures of relations between and among people (Coleman, 1988). This process of building trust and reciprocal exchanges is the basis for producing desired social outcomes for those who participate in a community. Thus social capital formation could lead to a more efficient and effective achievement of commonly pursued interests of those within the community. Elements of social capital can be seen to provide a framework for action required in the process to achieve outcomes and as such provide a potentially useful way of approaching socially sustainable actions (Messer and Kecskes, 2009). Messer and Kecskes (2009) thus present a framework for mapping the principles of social sustainability to the essential elements of social capital (see Table 2.1).

TABLE 2.1: Mapping the Principles of Social Sustainability to Actionable Constructs of Social Capital

Social Sustainability ‘Principles’	Social Capital Elements
Equity	Mutual Interest
Diversity	Inclusive participation
Interconnectedness	Building and sustaining relations
Quality of life	Embedded shared purposes
Open and accountable governance	Reciprocity through trust

Source: Adapted from Messer and Kecskes (2009)

While my research does not intend to focus solely on social capital as a framework for studying sustainable communities in the Niger Delta, this conceptualisation does provide a useful starting point for exploring social sustainability at the community level.

2.3.3 Sustainability: Translating Global Aspirations to Local Action

One of the biggest challenges facing the movement towards sustainability is how to take global principles and make them concrete locally, especially in contexts where there is little available financial support to do so. Local sustainable development implies actions that are based locally with the utilization and mobilization of local resources and actors (Cooper and Vargas, 2004). There is a need to ask local questions and focus on meeting local needs. Sustainable development cannot be a product packaged by the international community and delivered to a local community. Adopting the ‘one size fits all’ approach is not realistic; it works best when it draws on existing community resources and capacity building efforts (Hearn *et al.*, 2005). It relies heavily on community involvement and commitment, since sustainable development is a way of life. Bridger and Luloff (1999) have for example noted that discussions of a ‘sustainable society’ or a ‘sustainable world’ are meaningless to most people since they require levels of abstraction that are not relevant in daily life. Local physical places, by contrast are often the level of social organization where the consequences of environmental degradation are most keenly felt and where successful intervention is most noticeable. By shifting the focus on sustainability to the

local level, changes can be seen and felt in a much more immediate manner. Redclift and Sage (1995) argue that if sustainable development is to mean something, then it must be capable of translating into local action. Liemgruber and Imhof (1998) go even further by suggesting that the true scale for sustainability is the local level, where people interact and communicate and where each individual is affected by everybody's actions. Woodhouse (2000) offers a similar argument; he states that the concept of sustainability is best understood and evaluated on the basis of a sustainable community. He further states that genuine development enhances the sustainability of the community and this does not necessarily involve economic growth. Yanarella and Levine (1992: 769) also suggest that "sustainable community development may ultimately be the most effective means of demonstrating the possibility that sustainability can be achieved on a broader scale, precisely because it places the concept of sustainability in a context within which it may be validated as a process". By moving to the local level, the odds of generating concrete examples of sustainable development are increased. Sustainable development rooted in place-based communities has the advantage of flexibility. Communities differ in terms of environmental problems, natural and human resource endowments, levels of economic and social development and physical and climatic conditions. This heterogeneity makes the argument for focusing primarily on global and national sustainability, even more problematic (Bridger and Luloff, 1999). Moreover, Cooper and Vargas (2004) argue that sustainable development should be viewed as both a bottom-up and top-down process. Ideas and projects that are developed locally often have the greatest staying power because the community develops a sense of ownership.

This chapter makes a distinction between the external physical dimensions of sustainability and the internal socio-cultural dimension, and focuses primarily on the latter. It is therefore mainly concerned with individual actions, interactions, social structures and the social capital of communities. Contrary to what the proponents who prioritize environmental concerns believe, within developing countries like Nigeria pressing problems of social exclusion, poverty and unemployment are reducing the attention paid to environmental problems. Because of this, communities are less willing to accept the structural changes associated with shifts towards more environmentally sound patterns of consumption. Thus, for countries such as Nigeria, a socio-cultural perspective is integral to discussions about sustainable development.

2.3.4 Sustainable Communities

Bridger and Luloff (1999) describe sustainable communities as communities where local community action is significantly shaped by interaction with global trends and agencies, and is balanced by action at the local community level not only to protect and enhance their immediate environment but also to promote more humane local societies. In other words sustainable communities are reinforced by outcomes of interactions within the local community, between community members and groups, and with external bodies. This view highlights the importance of the interactions and linkages that lead to collective actions that are essential for the development of more sustainable communities. They argue that “sustainable community developments require strategies that build the community field and generate social capital” (Bridger and Luloff, 1999: 15). Fostering sustainable community development is therefore dependent to some extent on understanding how social capital is created, and on an awareness of how social capital can strengthen sustainable initiatives in communities. This requires an understanding of the ways that trust, active relationships, participation and collaboration are applied to produce real changes in the social and economic life of a community.

Bridger and Luloff (1999) define the ideal sustainable community along five lines. First there is an emphasis on increasing local economic diversity. The second aspect is self-reliance which is closely related to economic diversity. Self-reliant communities can still be linked to larger economic structures, but they have vibrant local economies which can better protect them from the whims of capital. The third dimension identified by Bridger, is a reduction in the use of energy coupled with the careful management and recycling of waste products. The fourth dimension focuses on the protection and enhancement of biological diversity and careful stewardship of natural resources. The fifth is a commitment to social justice. He adds that sustainable communities provide for the housing and living needs of all residents and ensure equality of access. Their definition reflects the wide range of definitions of sustainable communities, and while they make good arguments, this ideal of sustainable community totally ignores the social and economic situations of many developing countries. Terms like ‘*careful management and recycling of waste products*’; ‘*biological diversity, stewardship of natural resource*’ have little practical relevance to most people in developing countries such as Nigeria and especially in the Niger Delta Region. The primary concern of the people is survival

(Moyo, 2002). In Nigeria for example there are no recycling plants, no welfare system, no social housing, no energy reduction plans. These ideals are simply not feasible for most of Africa at present and reflect a fundamental disconnect between the West and the realities of people living in developing countries. This reflects the development thinking that uses the industrialised nations as a yardstick for a variety of development policies, programs and 'solutions' to the 'problem' of underdevelopment in developing countries. There is an increasing body of literature that shows that such an understanding of development is too simplistic and does not take into account the specificity of local geographies, cultures, economies and social structures of these countries (Leys, 1996; Pieterse, 1998; 2001; Munck and O'Hearn, 1999; Tucker, 1999; Watson, 2003).

Communities that are culturally rooted, locally produced and technologically adapted are being rapidly eroded (Norberg-Hodge, 2006). There has as yet been rather little research on community development as sustainable and liveable places that adapt their unique cultural identities and specific historical heritage to contemporary needs. This research argues that there is no universal development model that leads to sustainable communities; instead development is an essential, multidimensional, dialectic process that can differ from community to community, context to context. There is a clear need for a realistic conception of African communities and to explore prospects for meaningful solutions for sustainable communities that meet the people's needs based on their own assessment with their participation. The first key question in exploring sustainable communities is *what is a community?* The following section therefore discusses in more detail the concept of community.

2.4 COMMUNITIES

2.4.1 The Nature of Community

One of the difficulties in expanding the community approach to sustainable development has been confusion and misunderstanding about the notion of community (Warburton, 1998). Definitions of community have been contested within sociology from at least the 1950s onwards (Tönnies, 1957). 'Community' has been used in many contexts and defined in many ways. However, some common understanding of the term is required in order to

establish how it may link to sustainable development; particularly the essential link between community and place.

Sussman (1959: 1) suggested that “A community is said to exist when interaction between individual has the purpose of meeting individual needs and obtaining group goals --- a limited geographical area is another feature of community”. Kaufmann (1959: 9-10) similarly defines a community first as a place (a relatively small one at that), and second as a way of life, both as to how people do things and what they want, that is their institutions and their collective goals. Kaufmann’s (1959) third notion concerns collective action: persons in a community should not only be able to, but frequently do, act together in the common concern of life. These earlier definitions of community, talked about ‘community’ as a place in which people have some, if not complete, solidarity relations. It encompassed religion, work, family and culture, and referred to social bonds – characterised by emotional cohesion (Nisbet, 1966). From the 1980s onwards, such definitions of community have been broadened considerably. Gellner (1983), for example, notes that we talk of regions, nations, even groups of nations as being ‘communities’. Similarly Willmott (1986) offers three definitions of community:

- Community of locality: defined by where we live, our neighbourhood
- Community of attachment: a measure of the level of interaction with others, and the sense of identity
- Community of interest: a group of people with common interest (Gaved and Anderson, 2006)

These definitions highlight ‘place’ and ‘interactions’ as key elements in community, and although community of interest could also refer to a virtual community, I am particularly interested in place based communities. In many uses and definitions, geographical territory, common ties or goals and social interaction are key elements (Smith, 1996). Others highlight the importance of belonging, connection and shared responsibility (Milio, 1996), and the linkages and interrelationships that identify individuals as parts of communities (Lane and Duffman, 1997). Crow and Allen (1994) likewise note that ‘sense of community’ is likely to be strongest when two of three of Willmott’s (1986) types of community are present. Sociologists usually list a locality, a local society, collective actions, and mutual identity as essential to community and

continue to depend on social interaction for their existence (Maser, 1996; Flecknoe and McLellan, 1994; Bridger and Lullof, 1999). Wilkinson (1991: 2) describes social interaction as a “pervasive feature of community life that underlies and gives substance to the ecological, cultural, organizational, and social psychological aspects”. Although the local community is no longer the self contained, clearly bounded entity it may have been thought to be in the distant past, this does not preclude the fact that “people live together in localities...(and) continue to interact with one another daily in the process of conducting the various aspects of their lives” (Wilkinson, 1991: 22). Their greatest strength is that they facilitate informal sharing of knowledge among people and are seen as social units that stimulate development. Rose (1999: 172) views community as

“a moral field binding persons into durable relations. It is a space of emotional relationships through which individual identities are constructed through bonds to micro-cultures of value and meanings..... in the institution of the community a sector is brought into existence whose vectors and forces can be mobilized, enrolled, deployed in novel programs and techniques and harness active practices of self management and identity construction, of personal ethics and collective allegiances”.

This research focuses on ‘communities’ located in ‘particular places’; these two further descriptions of community contribute additional nuances that link it more firmly to ‘place’. Place and place-based relationships are still key features of communities in most African countries. It is at the community level that most people still meet their daily needs and it is partially through their interactions that people develop a social definition of themselves and their beliefs about the way in which the larger societies of which they are a part operate. In other words, the community is an important factor in people’s lives because it is fundamentally connected to their social construction of meanings (Newbrough, 1995; Mankowski and Rappaport, 1995; Sonn and Fisher, 1996).

It is not the intent of this research to over-romanticize the notion of community. As Taylor (1992:2) points out “communities... can be the scene of conflict and exclusion as well as togetherness, and many of the stress of modern life work against a community ‘spirit’”. Instead I seek to stress the critical and constructive aspects of community that are

linked to social change and the social structures that impact on people's ways of life and choices. The notion of community has two elements: one to do with relationships between people, and the other to do with relationships between people and the place in which they are located. It is to do with a common feeling based on sharing a place which creates particular types of relationships. I therefore explore further the interactional nature of communities in the next section.

2.4.2 An Interactional Approach to Communities

An interactional conception of community can provide the basis for the design of ICT strategies that strengthen local forms of social organization and interaction. In terms of understanding the use of ICTs for sustainable communities, this research argues for communities to be regarded from an interactional perspective. In other words, community inter-relationships and community interactions are considered key defining elements of community as people work together to find solutions for problems and improve the wellbeing of their community (Wilkinson, 1989).

“Social interaction delineates a territory as the community locale; it provides the associations that comprise the local society; and it is the source of community identity” (Wilkinson, 1991: 13). Bridger and Luloff (1999) propose a conceptual framework for sustainable community development based on an interactional approach to community. This interactional approach provides a framework for developing strategies that avoid pitfalls due to the numerous barriers to effective community action and democratic participation in local decision making - which are key elements of sustainable community development. They caution, though, that defining community in terms of social interaction and a relevant unit of social organization may not immediately lead directly to sustainable community development. They do however note that this is an important starting point.

Wilkinson (1991: 16-17) argues that “From the natural flow of the interaction processes, community emerges.... community, therefore, is a natural disposition among people who interact with one another on various matters that comprise a common life”. If community depends upon interaction, then it stands to reason that if interaction is suppressed, community is limited (Wilkinson, 1991). This approach to community makes it possible to explore more effectively how ICTs can enhance community interaction, aid

the formation of local social organization and contribute (at least partially) to the development of a more sustainable community. My research takes the position that by drawing on the interactional approach to community (Kaufman, 1959; Wilkinson, 1972, 1991; Bridger and Luloff, 1999) we can begin to outline ICT strategies that enhance local capacity and strengthen local forms of social organization.

2.4.3 Communities: Social Structures and Agency

As my research progressed, and particularly during my second visit to Nigeria, it became more evident that I needed to identify some way of engaging with the duality between structure and agency that I was encountering in the field. Many scholars have made attempts to understand the complexities and diversity and patterns of interaction between individuals and social structure (Giddens, 1984; Douglas, 1987; Granovetter, 1992; Long, 1992; Goetz, 1996). In this section I therefore explore in more detail aspects of Giddens' (1984) structuration theory and its implication for sustainable communities. It is important to understand the social structures and processes that mediate the transformation process in communities to analyze the interrelationship between existing social structures and ICT intermediation.

My research argues that based on the concept of power, one of the most important assets of poor people is their strength to form groups and organizations at the community level and collectively to pursue goals based on a shared vision. It must be emphasized however that communities are not a homogenous entity and that many development projects have underestimated the role of existing social norms and social institutions within communities, which often lead to power struggles and reinforce the marginalization and exclusion of certain groups within communities (Agrawal and Gibson, 1999). Understanding these differing interpretations therefore also formed an important element of my research. Based on this frequent misconception of communities, it is crucial to undertake an analysis of the locus and distribution of power relationships within a community, before beginning the assessment of the specific effects of the ICT intervention (Oakley, 2001: 14). These relations define the basic patterns of social and economic relations and therefore cannot be dismissed from an analysis of the potential impact of ICT on community empowerment.

There are broadly two categories of human conception: one is the individual person (Agency), and the other is the social collective (Structure) or the society as a whole. Within the social sciences there have been many different views on these two conceptions and their relationship. The first school of thought represented by Weber (Weber, 1978), argues that society is constituted by individuals and their intentional behaviour; the second represented by Durkheim (Durkheim, 1964) argues that society possesses a life of its own, independent from the individual and coercing individual agency. Another group represented by Berger and associates (Berger and Luckmann, 1966; Berger and Pullberg, 1965) developed a dialectical model that argues that society forms the individuals who create society and society produces the individuals who produce society in continuous dialectic reproduction (for a summary of structure/agency debate see Weber 1978; Durkheim 1964, 1966; Berger and Luckmann 1966; Giddens 1984; Sewell 1992).

According to Giddens' (1984), the key to understanding the internal social dimension of sustainability is the 'duality of structure', and his structuration theory tries to resolve the agency/structure dichotomy through this concept. He argues that "The constitution of agents and structures are not two independently given sets of phenomena, a dualism, but represent a duality . . . the structural properties of social systems are both medium and outcome of the practices they [agent] recursively organise" (Giddens 1984:25). His theory sees the relationship between individuals and society as a single whole: human actions are creating the structures of society, and those structures are in turn providing the context for the socialization of humans and the human actions will reflect and recreate these structures. Bhaskar (1989:34-5) aptly put it as follows: "society is both the ever-present condition (material cause) and the continually reproduced outcome of human agency".

While this duality is a key to understanding these connections, it does not satisfactorily address the issue of culture. As highlighted earlier, culture is a key element in understanding people's conception of sustainability and their adoption and use of ICTs. It is therefore important to examine agency and structure in relation to culture. Hays' (1994) work provides a good framework for understanding the duality of agency and structure because it builds upon Giddens' structuration theory and incorporates the role that culture plays in social structure. She suggests a conception of structure as more than just external

constraints. It is also a conception of agency as more than just subjective random action, and it includes a conception of culture as a part of social structure. She points out that the concept of structure might be refined in three senses. First, structures are the creation of human beings. Though often existing over the heads of human actors, social structures would not exist without their involvement. In other words people produce certain forms of social structure at the same time social structures produce certain types of people (see for example Berger and Luckmann, 1966; Giddens, 1982; 1984).

The second is that social structures can be enabling as well as constraining. For example a community in which there is unequal distribution of wealth, power and privilege between the two genders constrains men and women to act in certain ways, and in many developing communities gives them a sense of identity and security. Third, there are different levels of structure; different layers of social structures can be more or less hidden, more or less powerful, and more or less durable. In this context, Simmonds (1989:187) defines structure as “constraints, limits and necessity. The notion that social structures exist and are maintained only through the interactional activities of individuals is an important aspect of my research and has been widely reiterated in the literature (see Berger and Luckmann, 1966; Garfinkel, 1967; Blumer, 1969; Douglas, 1970; Goffman, 1974; Giddens, 1984; Alexander, 1987; Mehan, 1983; 1990). One of the questions that I seek to answer is therefore ‘how the systems of interactions among community members strengthen and reinforce social networks and ties?’ A second related question is ‘how can the use of ICT tools facilitate this?’ Attention is placed on the ability of cultures and relationships, enabled by ICTs, to transform socio-economic patterns. By addressing in more detail how people relate to one another, how shared practices emerge, and how communities evolve, it may be possible to understand better when, how, and why such communities can be socially sustainable and how they may use or not use technologies.

2.5 ICT FOR DEVELOPMENT

ICTs have changed access to information and knowledge, and transformed the way people communicate and network. They are therefore having great impact on development practice. In this section I explore three main issues within the literature: ICTs for Development; ICTs and sustainability; and a focus on how ICTs have been employed for community development.

2.5.1 The Call of ICT for Development

In 2000, the use of Information and Communications Technologies in development programming assumed a new prominence, when the United Nations and G8 group of industrialized countries flagged Information Communications Technology for Development (ICT4D) as a global development priority (United Nations, 2000). What followed was the establishment of the UN ICT Taskforce whose main goal was to lend a truly global dimension to the multitude of efforts to bridge the global digital divide, foster digital opportunity and thus firmly put ICT at the service of development for all. Since then, the understanding of ICT4D as a core development issue has been rapidly evolving (Mansell and Wehn, 1998; Heeks, 2002a; Weigel, 2004; Tongia *et al.*, 2005). Due to their wide application potential, ICTs are having profound and pervasive social, environmental and economic impacts on the world. Indeed, global society is said to be undergoing a transformation from the industrial, to the 'Information Society' (IS), one in which the most valuable resources are information and knowledge (Friedman 2006; Castells 2000). Both Castells (2000) and Friedman (2006) identify the role of ICT on structural changes in our society, and how extensive use of the internet and computers can empower individuals in the network society (Friedman, 2006). They suggest that in the network society significant changes will take place politically, economically, socially and culturally. Thus, ICT has been increasingly valued and used as the way in to deliver development contents and to achieve the Millennium Development Goals.

Just as there are varying schools of thought on what 'development' is and how to achieve it, there are also varying opinions on the relationship between ICTs and development. Some scholars and development practitioners (Hanna, 2007; Weigel and Waldburger, 2004; McNamara, 2000; WSIS, 2003; World Bank, 2006) believe that ICTs exert a positive influence on development, while others, notably Van Dijk (1999), Main (2001) and Morales-Gomez and Melesse (1998) regard ICTs as having a negative effect on development and as contributing to the expansion of the information gap between the rich and the poor, the literate and illiterate. Likewise, Nulens (2000: 64) warns that ICTs "will only increase existing inequalities and power relations". Some even claim that the idea that poor countries will achieve development by having access to ICTs is a myth (Niles and Hanson, 2003). There are however, some scholars who take a middle ground position trying to sketch a route between these extremes (see for example Unwin, 2009; Walsham

and Sahay, 2006; Soeftestad and Sein, 2003; Hearn *et al.*, 2005). They argue that ICTs are likely to deliver development outcomes more effectively when a bottom-up and needs based approach is adopted and implemented appropriately. In this regard, ICTs are not viewed as ends in themselves, but rather as tools that can enable further development when appropriately deployed. Some studies, for example, have highlighted the fact that there can be a transforming element in the use of ICT (Kenny, 2000; World Bank, 1998; Weigel and Waldburger, 2004; Unwin, 2009). These studies argue that the use of ICT could lead to more effective social change as it broadens and speeds access to information and knowledge that can result in greater participation of people in the events and processes that shape their lives. One such study found evidence to link economic growth to access to mobile phones, and notes that this impact was found to be more significant in developing countries (Waverman *et al.*, 2005). However, some studies caution against the assumption that such linkages would indeed occur in the case of developing countries (Main, 2001).

Though vast amounts of resources and energy have been invested in efforts to increase access to ICTs in developing countries, the results of these efforts are, thus far, inconclusive (GKP, 2003). There remains little hard evidence about the long-term impact of ICTs on sustainable development in those countries, in part because of a dearth of good monitoring and evaluation studies. Although there are abundant “success stories”, few of these have yet been subjected to detailed evaluation and most are case study based and mostly pilot projects that have yet to be scaled up. Unwin (2009) suggests that many such initiatives have been implemented within a framework that concentrates first on the technology and only later have they addressed the potential that ICTs might offer to poor and marginalised communities. He further argues that many of these initiatives have been supply-led rather than demand-driven, and consequently they have not been very effective in meeting the information and communication needs of the poor. He proposes that by beginning explicitly with an exploration of information and communication needs, it will then be possible to identify the best way to deliver ICTs to meet those needs. ICTs have many important contributions to make for holistic development, but not when narrowly applied in terms of models of development as catching-up to developed country ideals. Unwin (2009) adds that while there is little doubt that the transfer of information and knowledge from ‘developed’ to ‘less developed’ people and countries has enabled considerable strides to be made in for example increasing food production worldwide,

there is also an underlying interest in making people in poorer countries adopt ‘western ideas’, thereby becoming more involved in a global economy dominated by European and North American interest. My research builds on this, and takes the line that instead of designing ICT initiatives based on the model of catching up to the developed world, it is more productive to explore ways in which developing countries can use ICTs for their benefit, whether or not this follows global trends. More rigorous and empirical research is required to ascertain the validity of some the optimistic, pessimistic, or middle ground positions on ICT for development.

2.5.2 ICT and Sustainability: A Growing Connection

There is a growing literature on the interface between ICTs and sustainability, and scholars are increasingly making a connection between the two (Gurstein, 2005; Hearn *et al.*, 2005; Simpson, 2005; Tongia *et al.*, 2005; Hilty and Hercheui, 2010). There is now widespread recognition that sustainable development is a responsible way forward (WSIS, 2003; OECD, 2002) and it is enhanced by the recognition that ICTs are key drivers of socio-economic development (Walsham and Sahay, 2006; Hanna, 2007; WSIS, 2003). Both terms are increasingly used by civil society and academics to refer to a desired global future that is casting its shadow upon our current time and decisions. For sustainable development to be effective and efficient, it must harness the institutions and tools of the information society. And for the information society to sustain itself, it must pay careful attention to the stocks and flows of resources (material and human) and energy that underpin it. Technology has long been a crucial element in measuring and achieving sustainable development. From energy efficient technologies, environmental information systems (Erdmann *et al.*, 2004; Melville, 2010) to environmental sustainability of technology (Berkhout and Hertin, 2001) and, today, the use of mobile phones to share relevant information (Donner, 2007), there has been a key dependence on ICTs in the creation, dissemination and consumption of relevant, local information. Hilty *et al.* (2005) note that the interdisciplinary research in this field is just beginning. Felleman (1997) and Pamlin’s (2002) works discuss the information society and sustainable development together, with each offering important and interesting insights into information policy and tools and their role in environmental sustainability. However, more often than not, discourse on these two fields has a tendency to focus on a very narrow cross-section of issues and perspectives focused primarily on environmental sustainability. To understand adequately the potential for ICTs to enable the achievement of more sustainable

development, we must look beyond the direct impacts of the tools themselves to indirect impacts of the broader information society that they enable. My research aims to add to this discourse by exploring the links between ICTs and the social aspects of sustainability by focusing on how ICTs can support the development of community in a developing country context.

ICTs have been promoted as central to reviving and sustaining communities (Simpson and Hunter, 2001, Hearn *et al.*, 2005). How this may be implemented is still largely unexplored using empirical data. There are however some best practice suggestions about how this may be implemented (see for example Day, 2005; Tongia *et al.*, 2005; Hearn *et al.*, 2005 and Gurstein, 2001). Tongia *et al.* (2005) argue that for ICTs to be successful in facilitating sustainable development, the initiative requires integration, scalability and sustainability. He argues that ICTs need to be integrated into development as well as societal systems. This notion is also supported by Hearn *et al.* (2005) and Gurstein (2001) who argue that for ICTs to enable the sustainable development of communities the ICT initiative should provide a community service so that the ongoing sustainability of ICTs can be understood within the context of the ongoing sustainability of other community services and can draw from whatever resources are supporting those other services. In other words ICTs should not be introduced as a standalone facility as this is likely to be unsustainable, but if it is integrated into other services which the community values then efforts can be made by the people to sustain these service as part of their community development goals.

ICT for sustainable development should be negotiated as part of participatory and collaborative process (Tongia *et al.*, 2005). Gurstein (2001) notes that sustainability means different things to different people and groups, and therefore defining and clarifying what sustainability goals are is critically important. Hearn *et al.* (2005) supports this argument and adds that the focus should be on the human and social infrastructure rather than on the technical infrastructure alone, and that participatory research should involve individuals and stakeholders in clarifying sustainability goals.

A key issue that is agreed upon by most scholars is that for ICTs to enable the sustainable development of communities, the ICTs themselves have to be sustainable. The sustainability of ICT initiatives is thus a key issue for developing countries that lack the

infrastructure and capacities to sustain projects after the donor has pulled out. Gurstein (2001) notes in this context that the question of how community-based ICT initiatives can be sustainable in the longer term has now become of considerable importance. ICT for community development initiatives are confronted with challenges that result in projects that are not sustainable, or fail altogether because the project was not designed in the first instance with sustainability in mind. Sustainability of ICTs is key to their effectiveness to enable community sustainability, and it is therefore important to understand the concept and categories associated with ICT sustainability in developing areas. These categories have been identified as social and cultural, institutional, economic, political, and technological sustainability (Tongia *et al.*, 2005; Gurstein, 2001; Hearn *et al.*, 2005; Day, 2005).

2.5.3 ICTs as Tools that Enable Development

It is clear from the work of Sein and Ahmad (2001) as well as Andrew and Petkov (2003) that ICTs, if properly adapted to local circumstances, can be a powerful tool to combat poverty and foster sustainable development. Heeks (2008) notes that ICTs are now being integrated into a long list of other tools and techniques that might prove useful for development. He suggests that this should start with identifying development goals, seek to understand the role of information and communication in achieving that goal, then ask which new technologies— if any—could help deliver these goals.

I take the line of Unwin (2009), Heeks (2008), Weigel and Waldburger (2004), and Hearn *et al* (2005) who argue that the key to deploying ICTs effectively as tools in a given country should not begin with what ICT infrastructure the country lacks but from a clear picture of the country's main development challenges and a rigorous analysis of where, and how ICTs could make an impact on those challenges in a sustainable fashion. In other words, one does not begin with the questions of what ICTs a given country lacks and what we can do about it (the implicit question underlying much of the digital divide analysis), but instead what specific types of change are required to make a country more sustainable, in ways that include even the poorest. ICTs can then be brought into the analysis as one possible set of tools (among others, including both resources and policies) of these desired changes, not as a thing to be desired in themselves. For this reason, ICT-related indicative goals (such as a telecentre in every village over population X by date Y) are highly

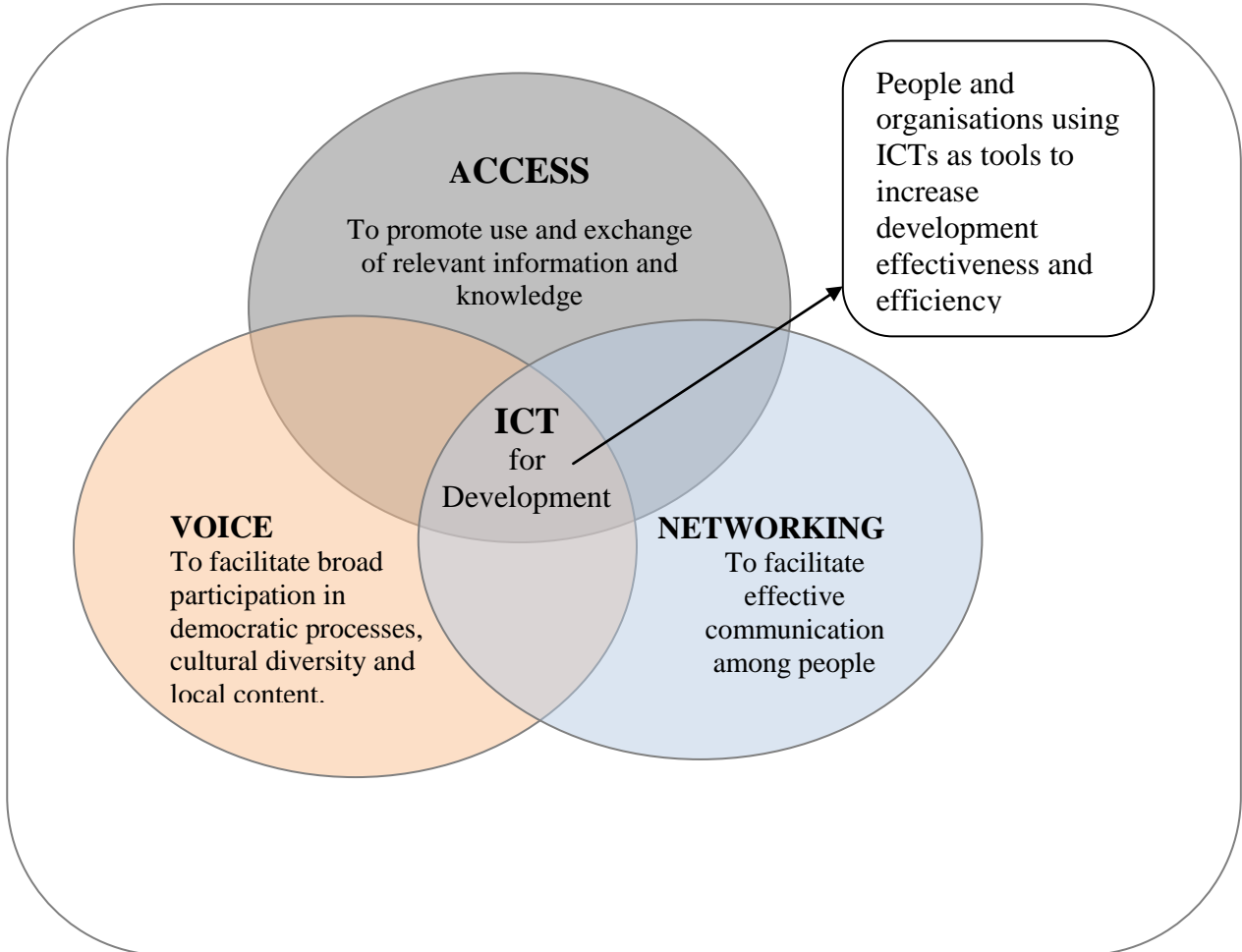
misleading. This means that ICTs should be viewed primarily as means to other ends. Specifying those ends (sustained economic growth; sustainable communities, reduction of poverty, improved economic and educational opportunities for the poor; greater gender equality) should lead first of all to asking why those ends have not yet been achieved, and what the impediments are to their realization. The key thing, is then to identify how better information and knowledge might be able to transform this situation, and then to explore how the technologies might be used to support their delivery. Proponents of this view believe that ICT should be conceptualized as part of a bigger package that goes beyond the technology to activities and interactions performed in specific social and cultural contexts. Weigel and Waldburger, (2004) provides a holistic framework for conceptualising ICTs for development depicted in Figure 2.4.

The framework in Figure 2.4 identifies three ways in which ICTs for development can be utilised to deliver development outcomes that are relevant in the conceptualisation of ICT for sustainable communities. The first is access to information and knowledge. ICTs are often defined in terms of their capacity to capture, store, process and transmit information and share knowledge. This information and knowledge can relate to, for example, financially viable markets and income generating opportunities, or community development activities, and education (CIDA, 2008). Access to information and knowledge strengthens civil society and contributes to poverty reduction by theoretically allowing individuals and communities to expand their choices (CIDA, 2008). Access to information provides people with the opportunity “to undertake production, engage in labour markets, and participate in reciprocal exchanges” with other people (Ellis, 2000: 31).

Also, recognition and dissemination of the indigenous knowledge possessed by the poor, especially women, can contribute to ‘development’ if it is defined in such a way. Knowledge and information are therefore key factors in social development. Knowledge empowers people and provides them with the opportunity to make their own informed choices as to what will work best for them. ICTs offer new ways of providing access to information and knowledge, and thereby create significant opportunities for four key aspects of sustainable communities: learning; networking, social organization and participation; and improving transparency and accountability. Access to relevant

information and knowledge as highlighted earlier is crucial for empowerment and development (Weigel, 2004).

FIGURE 2.4 ICT for Development Framework



Source: Adapted from Weigel and Waldburger, 2004

The problematic issue with this conceptualisation is that it suggests that access to ICTs equals access to information and knowledge. There are however complex questions surrounding the issue of access to knowledge and information. Such as ‘can individuals or groups reproduce knowledge just by transmitting information?’, ‘who is producing this knowledge and to what ends?’ and ‘how will this benefit the target audience?’ These issues are much more complex because by definition information is interpreted data or organised data, while knowledge is codified by the recipients of the information and this is based on contextual factors that originate in the mind of the individual (see Section 2.2.5). For this reason the context of the people for whom access to information is targeted needs

to be brought in as part of the equation in any analysis of the role access to information and knowledge delivered through ICTs can play.

The second relationship between ICTs and development as proposed in Weigel's (2004) framework is the facilitation of a stronger voice of the people in democratic processes and decisions affecting their lives. A major constraint for people living in low income communities is the lack of an effective voice in public life and on issues and decisions that directly affect their lives (Weigel, 2004). Access to ICTs can lead to the active participation of people, which is a precondition of 'voice'. They can be powerful tools in promoting the social inclusion that is a necessary factor for social sustainability. Tacchi (2006) defines 'voice' as inclusion and participation in social, political and economic processes, meaning making, autonomy and expression. ICTs and their relevance to 'voice' can be related, both for individuals and groups, to a denial of access to modes of expression and more generally to freedom of expression; it can be the lack of the opportunity and agency to promote self-expression and advocacy; the lack of access to technologies and platforms for distribution of a range of different voices; and it can be related to the lack of opportunities to participate in the design of ICT for development interventions themselves. ICTs can strengthen the voice of people with regard to their local culture and increase their contribution to the content of local media (Tacchi, 2006; Weigel, 2004). In this regard ICTs can contribute to community development by empowering citizens through participation and involvement in development initiatives.

Networking and communication among people is the third link in the framework (Figure 2.4). ICTs have changed the way that people interact and communicate. DiMaggio *et al.* (2001), for example, emphasise that the internet offers different modes of communication (broadcasting, individual searching, and group discussion) and different kinds of content (text, audio, visual images) in a single medium. ICTs can strengthen community ties and aid in the formation of new communities (Gurstein, 2000; Haythornthwaite, 2002; 2005; Gaved and Mulholland, 2005). In developing countries, mobile phones and community radio are also transforming the way people network and interact and this is impacting the social capital of communities (Pigg and Crank, 2004; Kavanaugh and Patterson, 2002).

My research builds on this framework and focuses on the ways ICT may be employed to give stronger voice of the people in communities, aid in enhancing community interactions through networking and communication among people and associations, and can provide access to relevant information and knowledge for community members as a strategy for enabling sustainable community development.

2.5.4 Utilizing ICTs for Community Development

The term community development is used to describe participatory processes that promote self-help and service delivery when the state is unable to satisfy community aspirations (Gilchrist, 2009). Bartley (2003: 186) states that “it is about interacting with people to assist them to find ways to build understanding and cooperation between individuals and groups to enable them make changes in their own lives and for the greater good”. Community development can be understood as a process of ongoing community social interactions, and as projects or programs that are aimed at implementing change or influencing the community in some way

Development and communications studies have shown for some time that by giving people access to ICTs and encouraging them to create their own local content, they are better able to become ‘active citizens’ (Simpson and Hunter, 2001; Stellar, 2002; Gurstein, 2001). Local content serves individual and community needs, is easily accessible and promotes the social, cultural and/or economic development of the community, for example by building social capital and assisting local businesses.

The idea that ICT initiatives can help to empower people in communities has given rise to projects like community telecentres, which have been defined as “a diverse range of facilities providing access to information and communication technologies ... offering phone, internet and community services” (Shakeel *et al.*, 2001:1) or “places that offer the public connectivity with computers and networks” (Roman and Colle, 2002: 2). Telecentres have been advocated as a means of providing both information and communication facilities in ‘developing’ areas specifically targeting impoverished communities. It is argued that they will have greater impact if there is participation from the local community in their design, implementation, management and evaluation (Casparry and O’Connor, 2003; Colle, 2005; Gómez *et al.*, 1999; Roman and Colle, 2002;

Proenza, 2001; Whyte, 2000). While there has been a long history of involvement of media in community action, it is surprising that not more ICT initiatives have built on this. Community participation is frequently advocated in terms of telecentre projects, with the assumption that this will lead to long-term sustainability. However, the funding models have not yet been proven to be entirely sustainable. There are a number of other areas that need exploration in this assumption, including the concept of information and information needs, deeper exploration of the term sustainability and the causality and impact of ICT use (Blattman *et al.*, 2003; Hunt, 2001; Kanungo, 2004; Proenza, 2001; Roman and Colle, 2002). My research explores each of these further in the Niger Delta context.

ICTs have also proved to be useful for democratisation in some communities. For example, the Bangladeshi women - most often poor - who make up the majority of phone operators for the Grameen Village Phone network have experienced an enhancement of their social status by virtue of their privileged access to a means of acquiring valuable information (Aminuzamman, 2002). Grameen Telecom (GT) uses two main methods of extending phone access: first, the provision of phones directly to potential subscribers (often businesses) and, second, the leasing of phones to Grameen Bank members who then provide telephone services on a 'fee for service' basis to the rest of their community

While there have been notable successes in the telecentre approach to community development (Roman and Colle, 2002; Hunt, 2001; Kanungo, 2004), there is also a critical body of literature regarding telecentres. Robinson (1998) notes that after two years, only five of the twenty-three original telecentres established by the Ministry of Environment in rural Mexico were functional. Likewise a longitudinal study conducted by Best and Kumar (2008) to examine 100 internet facilities in more than 50 different villages in rural India, under the Sustainable Access in Rural India (SARI) project in Tamil Nadu, found that although the SARI project enjoyed many successes, including some tangible social and economic development impacts, ultimately, however, it was not sustainable. Of the 36 private telecentres which were opened at various times between November 2001 and February 2004, 32 had closed by May 2005 (Best and Kumar, 2008)

Wade (2002:443) argues that providing connectivity and access for development is like saying "cheap books can cure illiteracy". He argues that the focus on telecentres is no

different from the argument implying causality between telephones and development, where the “criteria of inference are so elastic that correlations become causations. Area A is rich, integrated into market relationships, and has a lot of telephones; Area B is poorer, less integrated into market relationships, and has fewer telephones – therefore a telephone rollout will make B richer and more integrated” (Wade, 2002:450). This telecentre approach to supporting communities with technology although effective in some instances raises serious questions associated with their financial, social and political sustainability (Gomez, 2010; Best and Kumar, 2008).

Indeed, most studies find that the optimal way of ensuring the economic success of ICTs in communities is to encourage local participation and create social institutions in support of new technologies (Kenny, 2001). This means in particular helping communities define their needs in terms of i) communication (who wants to communicate with whom, why, and how?); ii) information (what information is needed, by whom, when, where, for what purpose?); and iii) education and training (who needs what, when, where, and how would they prefer to have it delivered to them?) (Paisley and Richardson, 1999). The rapid emergence and new articulations of ICTs in marginalised communities therefore suggest a need to understand and develop culturally appropriate interfaces not only as avenues for information to be disseminated and exchanged among marginalised people, but for local content creation, if there is to be meaningful uptake of ICTs in these communities.

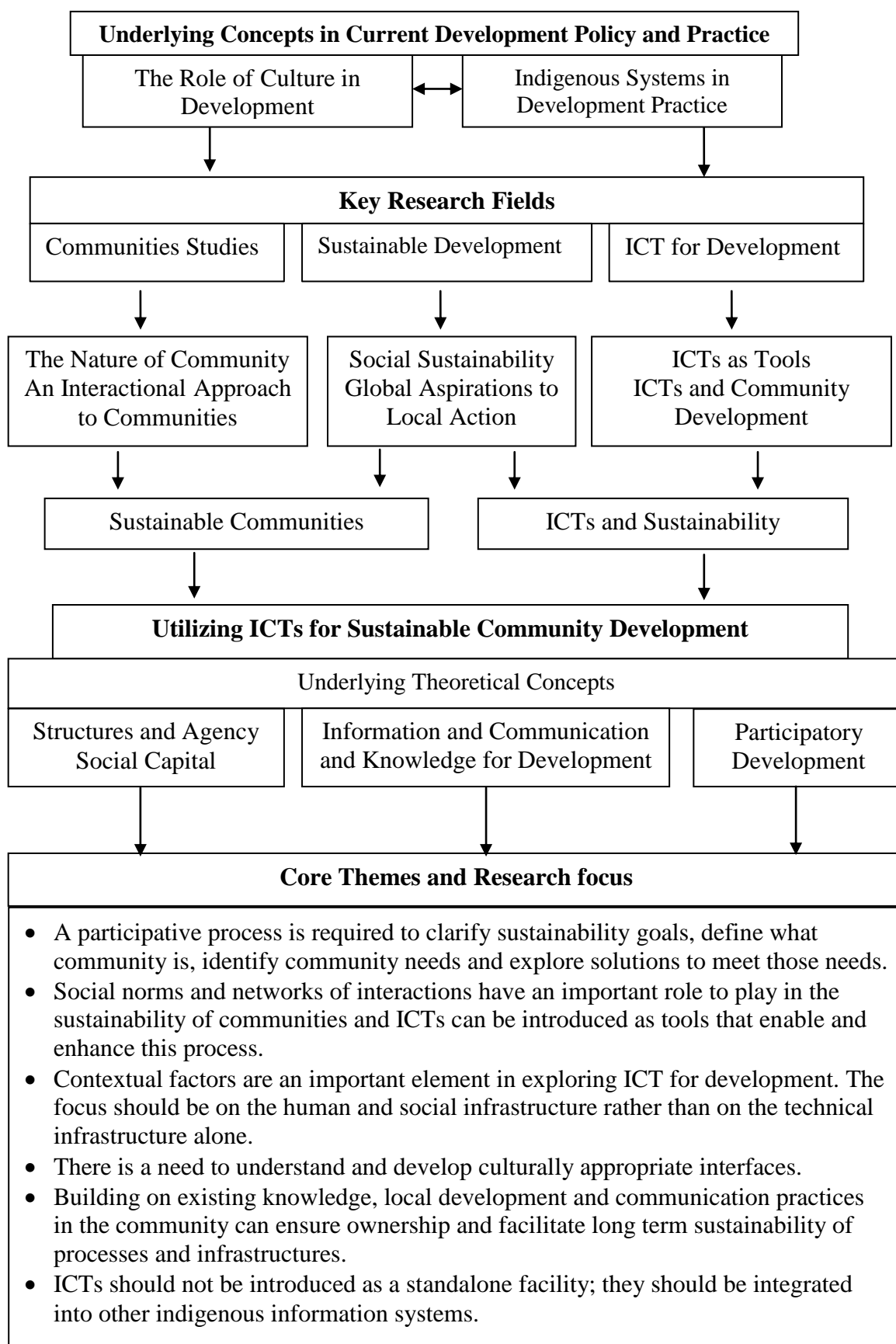
2.6 FRAMEWORK FOR RESEARCH

This chapter has reviewed a range of interconnected literature drawn mostly from three knowledge territories: sustainability, communities and ICT for development. Each contributes elements to my conceptual framework. In this section, I pull together these various threads and synthesize them to provide a theoretical foundation for my research. I then define my research focus and use this as a basis for framing my research questions.

2.6.1 Summary of Themes

The conceptual framework above has highlighted key issues that are important in researching the role that ICTs can play in supporting communities towards sustainability (see schematic representation of conceptual framework in Figure 2.5).

FIGURE 2.5 Conceptual Framework



One of the major reasons put forward for the failure of development projects to achieve anticipated community development outcomes is that these projects have been designed without a clear understanding of the target communities and without the involvement of the community in the development process. Therefore providing solutions to meet their needs requires on an understanding of specific communities and regions. There is a need to define what community is in a particular context in order to provide solutions that are appropriate for their development needs. The notion of providing the technologies is itself problematic, and as suggested by Unwin (2009) it is best to help communities develop their own solutions.

The second theme highlighted is that community participation should be a central element of the process and a deeper understanding of what constitutes community is required. There is a clear need for a realistic conception of indigenous communities and to explore prospects for meaningful solutions that meet the people's needs based on their own assessment and with their participation.

A third theme drawn from the literature is the role of culture and indigenous knowledge systems in current development thinking and practice. In designing solutions for indigenous communities it has proven successful to recognise and build on indigenous practices and thus to respect the cultural traditions of the people (Gorgestani, 2000; Mchombu, 2004). This is a strategy that my research explores.

The conceptual framework also makes connections between social capital and the sustainability of communities. The notion of sustainable communities focuses on building the capacity of local people for community interaction to collaborate and work together to find solutions to local problems, and to work towards shared goals that contribute to the well-being of the local community as a whole (Wilkinson, 1989). This ability for collective action and working together to find solutions depends on the strength of the norms of trust and reciprocity that exists in a community and networks that facilitate collective action. These are core elements of social capital and such community focused efforts are the essence of sustainability through their intent to build and improve community. ICT initiatives that foster widespread participation and social inclusion and enable greater

interaction in local and external networks will contribute to a stronger sense of community and increased social capital, thereby ensuring greater potential for sustainability.

A strong theme that has emerged during this review of some of the ICT for sustainable development literature is that clarifying sustainability goals is an important aspect and should be the starting point in any effort to provide communities with technologies (Gurstein, 2001). It should be negotiated as part of participatory and collaborative process (Tongia *et al.*, 2005). Those who see themselves as part of a setting will negotiate what sustainability means with respect to their goals, and which structures or arrangements merit continuity (Röling and Jiggins, 1998). This tie in with the ICT for development discourses where contextual factors are becoming increasingly important in the local appropriation of ICTs.

Another theme that emerged from the literature is that ICTs should not be introduced as a standalone facility as they are likely to be unsustainable in such circumstances, but if they are integrated into other indigenous information systems with which the community members are already familiar, then the people are more likely to use ICTs and then efforts can be made by the people to sustain these service as part of their community information system.

These are the core themes with which this research grapples and they provide the conceptual foundation for the research focus.

2.7 CONCLUSION

ICTs have been promoted as being central to reviving and sustaining communities (Simpson and Hunter, 2001, Hearn *et al.*, 2005). However actual evidence on how this may be implemented is still largely unexplored using empirical data. The sustainability of ICT initiatives for communities is not only dependent on the extent to which a project addresses community needs and issues, but also on the processes used to achieve this. A top-down approach is unlikely strongly to influence the growth of community capacity, or have positive long term effects on that community unless the social aspects of the local environment are taken into account. My research therefore uses a bottom up approach to explore ICT for sustainable community development from a socio-cultural perspective using the Niger Delta region of Nigeria as a case study.

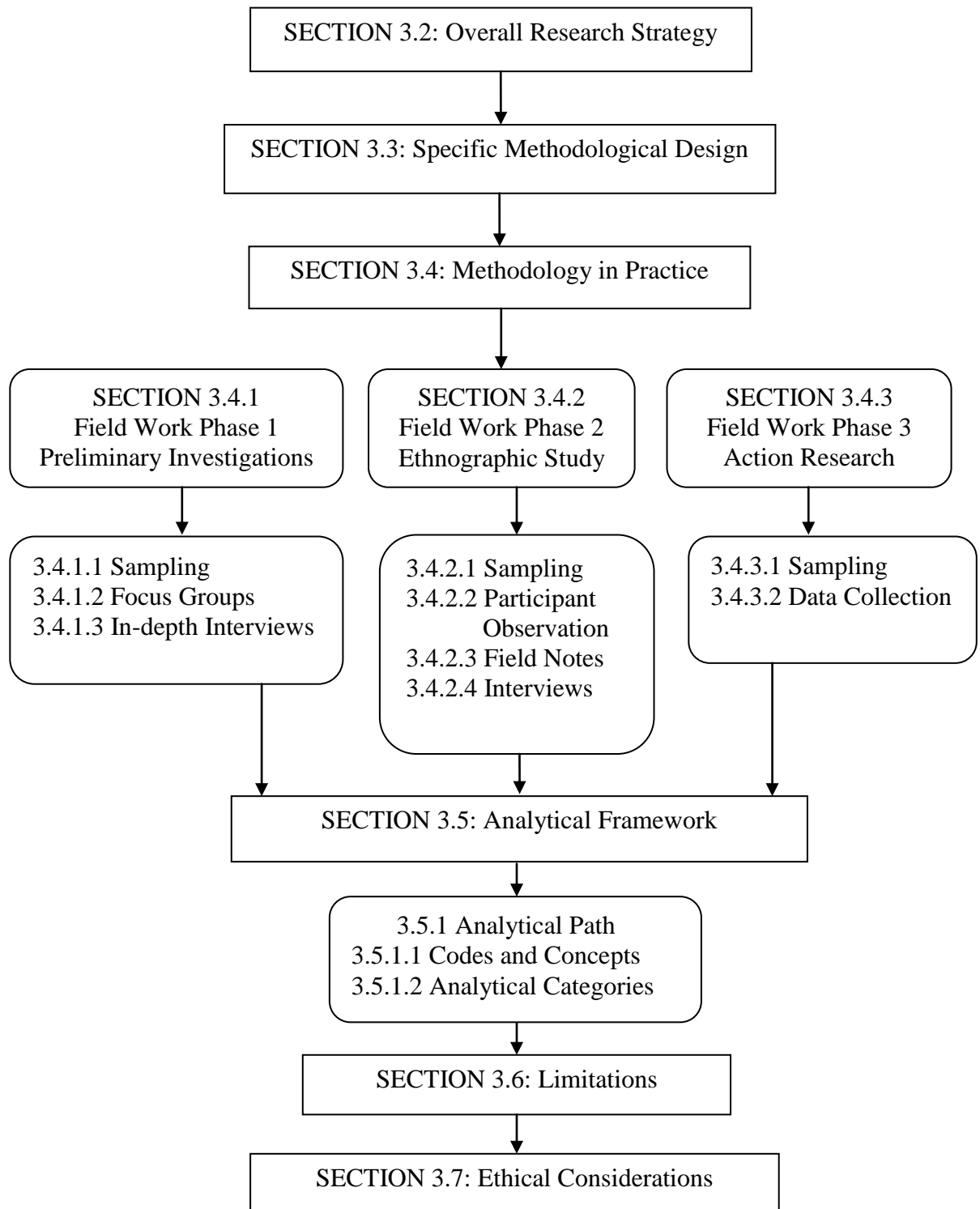
This synthesis defines my research focus and also informs the methodological design for this research. This research is intended to understand the evolving dynamics that can be generated by the introduction of ICTs in communities and to investigate the anticipated consequences of ICT interventions on the social relations within communities. My initial assumption is that existing social networks and interactions represent the entity that can benefit from ICT for sustainable communities. Consequently, this research seeks to uncover local perceptions about ICTs, the patterns of usage and how it might be activating social mechanisms by which people interact with one another. I also pay attention to the sustainability of ICT initiatives, not only from an economic perspective but also in terms of socio-cultural and institutional perspective.

Chapter 3: Research Methodology: Hybrid Ethnography in an African Context

3.1 INTRODUCTION

Chapter 2 highlighted the key issues that this thesis will explore. One of the main gaps identified from the literature is the vast difference in rhetoric on ICT for development initiatives and the realities of people in developing countries (Unwin, 2009; Mchombu, 2004; Taachi *et al.*, 2003; Heeks, 2002a; Weigel, 2004; Mansell, 2002) and this has greatly influenced the methodological approach of this research. This chapter presents my overall research strategy, the methodological design and the analytical process. I proceed from the most general aspects of the methodology to the details of the applied methodological processes. In the first section I present my overall research approach which documents the way of thinking and studying the social reality in my research. In the second section, I present the specific methodological design that documents the action plan and lays out the participatory framework of the cyclical grounded theory model adopted. In the next section I present the investigative framework and review the techniques used for gathering data. In the following section I document the analytical processes through which the data was fractured, conceptualized, and integrated to form theory and I provide details of the bottom-up coding procedure I applied in this research. To give an overview of the complexity of the methodology, Figure 3.1 provides an outline of the chapter.

FIGURE 3.1: Chapter Structure and Layout



3.2 RESEARCH APPROACH

Qualitative research has been defined as “... multi-method in focus, involving an interpretive, naturalistic approach to its subject matter” (Denzin and Lincoln, 1994:105). Cresswell (1994) has suggested that qualitative study is an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, with detailed reporting of informants’ views and opinions, and conducted in a natural setting. Myers (1997) likewise suggests that qualitative research involves the use of data such as interviews, documents, and participant observation data, to understand and explain social phenomena. These definitions highlight some key issues that correspond with the goals of this research: first, my study seeks to understand the local setting of communities; it involves making sense of and interpreting a particular phenomenon based on the meaning that the people ascribe to them; and finally it offers a diversity of methods that can be used to achieve the research goals. These issues have influenced my overall research approach. Trauth (2001) outlines five factors that influence the choice of qualitative methods in research: the nature of the research problem, the researcher’s theoretical lens, the degree of uncertainty surrounding the phenomenon, the researcher’s skills, and academic politics. My research was particularly influenced by the first three of these.

Four main approaches underlie the research: the epistemology adopts an *interpretive, hermeneutic approach*; it is a *people focused research* within a *participative framework*, and it adopts a *grounded theory approach* to data collection and analysis. In this section I explore these four overarching concepts and provide reasons why they were chosen.

3.2.1 An Interpretive Approach

Guba and Lincoln (1994) emphasise that epistemological and ontological assumptions influence the choice of methodology adopted in qualitative research. My philosophical assumptions at the start of the research were that social reality is locally and specifically constructed (Guba and Lincoln, 1994) “by humans through their action and interaction” (Orlikowski and Baroudi, 1991:14). I do not believe that an objective world exists, and I agree with Neuman’s notion that “social reality is based on people’s definition of it” (Neuman, 1997:69). Thus, the epistemological assumption in this research is that “findings are literally created as the investigation proceeds” (Guba and Lincoln, 1994: 111) and that

“understanding social reality requires understanding how practices and meanings are formed and informed by the language and tacit norms shared by humans working towards some shared goal” (Orlikowski and Baroudi, 1991:14). Based on these assumptions, I adopted an interpretive approach to my research problem.

A key argument for using an interpretive approach is that knowledge is gained, or at least filtered, through social constructions such as language, consciousness, and shared meanings (Klein and Myers, 1999). In addition to the argument that reality is socially constructed, Rowlands (2005) further argues that interpretive research acknowledges the intrinsic relationship between the researcher and the research objects, and the constraints shaping this process. Interpretive research was therefore chosen as an approach because it does not predefine variables or set out to test some hypotheses that the researcher has already defined. Instead it aims to produce an understanding of the social context of the phenomenon (which in this case is sustainable communities and ICTs) and the ways in which this phenomenon influences and is influenced by the social context (Rowlands, 2005; Walsham, 1995). My research problem is to explore how ICTs may contribute to and support the sustainability of communities in the Niger Delta. The word ‘*explore*’ calls for an inductive approach that will aid the discovery of social processes that emerge during the research to describe a socially constructed version of reality at a theoretical level. Trauth (2001) argues that the type of research problem should have the most significant influence on the choice of methodology. He states that “*what* one wants to learn determines *how* one should go about learning it” (Trauth, 2001: 4). Interpretive research provides a vehicle for understanding the problem, the nature and complexity of the processes taking place, and the valuable insights that can be gained as new concepts emerge. It attempts to understand phenomena by accessing the meanings that participants assign to them (Rowlands, 2005). My intent is to understand the deeper structure of how people in the Niger Delta understand sustainable communities and ICTs, their attitudes towards ICTs and the relationships between ICT use and socio cultural development. I aim to build theory, not just to test already existing theory, for the purpose of describing and explaining the participation process.

Another factor that influenced this inductive, interpretive stance is that very limited empirical work has been done on ICTs and community development in Africa, with even

less on sustainable communities. The research that has been done has also not focused especially on the socio-cultural conditions of communities in sub-Saharan Africa. Of the research that has been undertaken (see for example, Orlikowski and Baroudi, 1991; Hoffman, 1985; Flamm, 1987; OECD 1988), the dominant paradigm has been positivist, with an emphasis on survey type research as the main method of analysis and data collection. My conceptual framework identified gaps in this area and the literature calls for more research that adopts a holistic approach that includes the social context and incorporating views of intended beneficiaries into the research process (Unwin, 2009; Walsham and Sahay, 2006; Taachi *et al.*, 2003; Heeks 2002).

3.2.2 People Focused Research

Another major factor considered in designing the methodology is the evolving paradigm of ICT for development research. The concept of *people* has become a major focus in debates around research and practice of ICT for development. There is a growing voice in the literature calling for research that moves away from the focus on technology - hardware, software and access - to a more people centred focus. Most notable is the ‘things’ versus ‘people’ debate (Cernea 1991, Korten 1995; Chambers, 1997). Previously research in ICT for development has been largely focused on ‘things’ such as infrastructure, connectivity, hardware and surveys of ICT use in developing countries (see Hoffman, 1985; Flamm, 1987; OECD, 1988). Unwin (2009) makes the argument that if poor and marginalised communities are to benefit from the developmental impact of new technologies, then the focus should be on the people, identifying their needs and providing solutions that meets those needs.

This has led to a massive shift in priorities and thinking from things and infrastructure to people and capabilities. This shift has affected research methodology, with qualitative approaches being viewed as the most suitable form of research for studying people. Korten (1995) and Korten and Klauss (1984) outline the implication of this archetype on qualitative research processes, and Table 3.1 depicts the methodological implications of these two models in ICT for development research.

TABLE 3.1: Things vs. People

POINT OF DEPARTURE and REFERENCE	THINGS	PEOPLE
Mode	Blueprint	Process
Keyword	Planning	Participation
Goals	Pre-set, Closed	Evolving, Open
Decision Making	Centralised	Decentralised
Analytical assumptions	Reductionist	Systems, Holistic
Methods, rules	Standardised, Universal	Diverse, Local
Technology	Fixed package	Varied basket
Professional Interaction with local people	Motivating	Enabling
Local people seen as	Beneficiaries	Partners, Actors
Force flow	Supply-push	Demand-pull
Outputs	Uniform infrastructure	Diverse capabilities
Planning and Action	Top-down	Bottom-up

Source: Adapted from Korten (1995)

These implications are reflected in my research design and focus. ICTs are tools for communication, and communication is at its most fundamental level a relationship *between people* (Courier, 1998). Shaeffer (1994:15) citing Ogun (1982) states that “sustainable development ultimately depends on enhancing people's capacities as individuals and groups to improve their own lives and to take greater control over their own destinies”. In the preface to his book, *Whose reality counts? Putting the last first*, Chambers (1997) states that he was astonished by the analytical abilities of poor people. He talks about ‘uppers’ and ‘lowers’ in the research process. ‘Uppers’ are the external researchers usually from the North who usually hold the power, while the lowers are the poor community people they research in the South. Chambers argues that the power dominance of the uppers is a disability to the research process. He further states that *uppers*, especially senior males, patriarchs and academics are vulnerable to being out-of-touch and out-of-date. He advocates that we should ask how much are the realities we perceive, our own creation as uppers? What are the realities of *lowers* and how can they be expressed. I argue in this research that there is a need to focus on the people, their

indigenous knowledge, their values and their needs for a better understanding of how ICTs may enable sustainable communities.

People focused research is about putting the people first (Korten and Alfonso, 1981; Cernea, 1985; Burkey, 1993) and designing programs and initiatives that are tailored to meet the needs of the people rather than ‘fitting projects to the people’ (Uphoff, 1991). This research is people-centred and the methodological design therefore reflects this emphasis. It is a bottom-up approach that is open, evolving, participatory, employing diverse methods and interactions that seek to enable local people and increase people’s capacity to influence the conditions that affect their lives.

3.2.3 A Participatory Research Framework

Participation has different scales and levels. Here, I outline how participatory research as a methodology is employed and why it was most appropriate for this research. I use the term participatory action research (PAR) to indicate research that encompasses approaches and methods that have in various ways combined action, reflection, participation and research. PAR especially has sought actively to involve people in generating knowledge about their own conditions and how it can be changed, to stimulate social and economic change based on the “enlightenment and awaking of common peoples” (Fals-borda and Rahman, 1991: vi) and to empower the oppressed. PAR methods usually engage the commitment and analysis of local people, enable the expression and sharing of their diverse and complex realities, give insights into their values, needs and priorities, and can also lead to participatory action (Chambers, 1997). PAR is characterised by the strong involvement and degree of participation of intended beneficiaries in the research process (Whyte, 1991).

The term ‘participatory’ was made especially popular by Chambers (1994) with his participatory rural appraisal (PRA). Nevertheless, participatory approaches have been around a lot longer, and have been used since the 1960s, evolving and spreading to many domains. ‘Participation’ has become a buzz word in many development circles. Scholars such as Paulo Friere in the 1970s challenged the traditional ways of collecting data on oppressed people and advocated for the involvement of oppressed people. Winter (1987: 2) questions the power dominance of the researcher in the research process, and states that

PAR “challenges a scientific method of inquiry based on the authority of the ‘outside’ observer and the ‘independent experimenter, and it claims to reconstruct both practical expertise and theoretical insight on the different basis of its own inquiry procedures”. Hall (2001) defines participatory research as an integrated three-pronged process of social investigation, education and action designed to support those with less power in their organizational and community settings. Participatory action research is a form of experimental research that focuses on the effects of the researcher's direct actions of practice within a participatory community with the goal of improving the performance quality of the community or an area of concern (Dick, 2002; Reason and Bradbury, 2001; Hult and Lennung, 1980; McNiff, 2002).

These assumptions and views are the guiding principles that have informed the construction of the research questions. My PAR strategy seeks to empower ‘lowers’ and to make power reversals real. Whether this is actually possible is a subject for further exploration. Nevertheless PAR approaches started with concerns about power and powerlessness, and aimed to confront the ways in which the established and power holders of societies worldwide are favoured because they hold the monopoly on the definition and use of knowledge. The Niger Delta is a region that is rich in mineral resources and provides over 80% of Nigeria’s income, yet the area remains the most underdeveloped region in the country. The people are constantly faced with outsiders and extractive industries whose main interest in the region is the oil resources within their boundaries. The region has many advocacy groups agitating for sustainable development. With prior knowledge of this context and the wide gap observed between scientific knowledge and the realities of the people in the Niger Delta, I considered that adopting a PAR approach would give the people voice and enable them actively to participate in defining their own needs. The research to date on the Niger Delta has generally been done FOR the people not WITH them. My approach attempts to avoid the traditional extractive research carried out by many universities, consultants and governments where experts go to a community, study their subjects, and take away their data to write their papers, reports and thesis. The research questions and the participatory framework of my research attempts to redress the power dominance of the researcher - especially since I am originally from the Delta myself.

3.2.4 A Grounded Theory Methodology

Grounded theory is “the discovery of theory from data” (Glaser and Strauss, 1967: 1). In *The Discovery of Grounded Theory*, Glaser and Strauss (1967) offered systematic strategies for qualitative research practice. They propose that systematic qualitative analysis had its own logic and can generate theory. They intended to construct abstract theoretical explanations of social processes. For Glaser and Strauss (1967), Glaser (1978), and Strauss (1987), the components of grounded theory include:

- Simultaneous involvement in data collection and analysis
- Constructing analytical codes and categories from data, not from preconceived logically deduced hypotheses
- Using the constant comparative method, which involves making comparisons during each stage of the analysis
- Advancing theory development during each step of data collection and analysis
- Sampling aimed toward theory construction, not for population representativeness

The purpose of grounded theory is “to generate or discover... an abstract analytical schema of a phenomenon, that relates to a particular situation... in which individuals interact, take actions, or engage in a process in response to a phenomenon” (Creswell, 1998: 55-56). The study of processes is “an essential feature of a grounded theory analysis” (Strauss and Corbin, 1990: 157). Strauss (1987: 22-23) adds that “the focus of analysis is not merely on collection or ordering a mass of data, but on organising many ideas which have emerged from analysis of the data”. Engaging in these practices helps researchers to control their research process and to increase the analytic power of their work (Bigus *et al.*, 1994; Charmaz, 1990, 2003; Glaser 1992, 1994; Glaser and Strauss, 1967; Strauss and Corbin, 1990, 1994).

Methodologically, the main advantage of grounded theory is to produce “theory closely related to the phenomenon being studied” (Creswell, 1998: 56). Little previous theory on the interaction between ICTs and the social fabric in indigenous communities exists, which meant that the inductive, context and process of the method (Orlikowski, 1993) proved to be particularly useful in my research. Grounded theory has a combination of strengths that make it a popular research tool. These can be summarised as follows:

- It possesses mechanisms that help researchers to avoid feeling swamped by the data.

- It generates rich data from the personal experiences of people
- It has the capacity to develop theories
- It is a powerful research model with a rigorous procedure (Charmaz, 2006; Creswell, 1998)

However, it must also be acknowledged that there are some challenges associated with this research model that require attention. Lamnek (1988) for instance makes the following points:

- The notion of entering the research scene without preconceptions is sociologically very questionable.
- The notion of personal involvement in the research raises the point of subjectivity and the level of validity of the findings.
- The method of theory building (especially of formal theory) is not precise.

Some of the emerging criticism of participatory research is that the process of engaging rural communities in the research process can compromise the rigour of the research process (Mohan, 2001, 2006). This can be addressed in part by using grounded theory techniques which add rigour to the research process because of the method of theory discovery. In their original statement of the method, Glaser and Strauss (1967) invited researchers to use grounded theory strategies flexibly in their own way. By using grounded theory techniques for data collection and analysis, I sought to address the identified weaknesses of interpretive methods by ensuring that the research was rigorous, and analysis met the criteria for good qualitative research.

In the following sections I present the specific methodological design that shows how grounded theory techniques have been incorporated into the overall participative framework.

3.3 THE RESEARCH METHODOLOGY

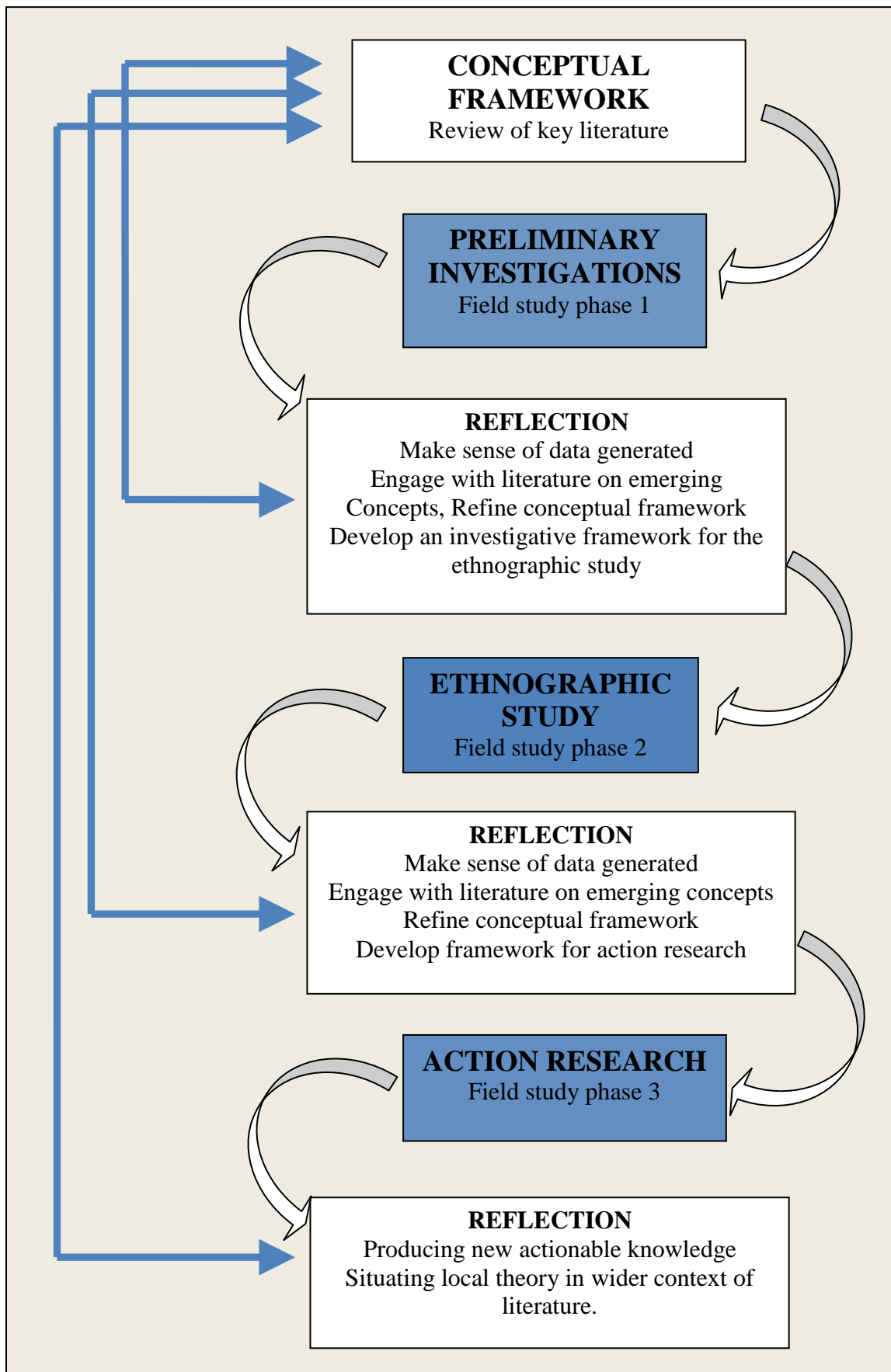
Here, I present the participatory framework adopted and the cyclical grounded theory model I developed and used for the research.

3.3.1 Specific Methodological design

Various strategies and models for PAR have been reviewed to guide the development of the PAR framework for this research (see Argyris and Schon, 1989; Carr and Kemmis, 1986; Chambers, 1981; Checkland and Scholes, 1990; Kemmis and McTaggart, 1988; Levin, 1994; Lofland *and* Lofland., 1984; Reason, 1988; Whyte, 1991; Dick, 2002 and Fals-borda and Rahman, 1991). Most PAR proceeds through repeated cycles, in which researchers and the community start with the identification of major issues, concerns and problems, initiate research, originate action, learn about this action and proceed to a new research and action cycle. Participatory action research attempts to make these decisions more consciously and in relation to clearly worked out purposes, and using more appropriate designs and techniques for exploring them.

Figure 3.2 outlines the research model and process adopted during this research. The methodological design is a hybrid that combines ethnography and action research in a participatory framework. It combines an action research cycle of planning, doing and reflecting that is reflected by the phased field work with an ethnographic immersion in my research context. Tacchi *et al.* (2002) have used this kind of approach successfully for research designed to develop a transferable methodology for the evaluation of community multimedia centres, termed ethnographic action research. It was intended to focus on actual practices of use and interactions with technologies in the wider context of people's lives and social and cultural structures (Slater and Tacchi, 2003). The ethnography is used to guide the research process and make sense of the complete range of social relationships and processes. Action research is used to bring about new activities through new understandings of situations. The action research involves individuals and groups researching their own socio-cultural settings and experiences. They reflect on their values, shared realities, collective meanings, needs and goals. The approach for this research adopts a similar structure but combines this with grounded theory techniques (see Figure 3.2).

FIGURE 3.2: A Cyclical Grounded Theory Model



Grounded theory proposes that a literature review should be conducted after data collection. Glaser and Strauss (1967) and Glaser (1978) argue that a study of the literature that is closely linked to the research topic should be avoided because it may lead the researcher to look for concepts related to existing theory and thus limit innovation in coding their data. In contrast, my methodological design (Figure 3.2) began with developing the conceptual framework. I chose to do an initial literature review before the field work for two reasons. First, I wanted to ascertain whether or not the topic I was researching had been sufficiently researched to ensure that my research added to knowledge instead of replicating what has already been done. The second reason was because it provides “a sensible theoretical basis to inform the topics and approach of the early empirical work” (Walsham, 1995:76). Likewise, Urquhart, (2001, 2007) argues that the literature does not prevent the researcher from being theoretically sensitive and aware of the relevance of the theory to the actual data.

Glaser and Strauss’s (1967) suggestion to set aside theoretical ideas is to ensure that the researcher takes an inductive rather than deductive stance, and learn from the data rather than imposing preconceived ideas on the data. In practice, my conceptual framework helped to develop my ideas and helped me to focus on the gaps identified in the literature during the data collection process. I made a conscious attempt through reflexivity to ensure that the literature did not impose limitations on my including new emergent ideas and refining the conceptual framework based on the data collected. Each phase of field work was followed by reflections on emergent concepts that fed back into the conceptual framework. Dey (1999: 104) states that “what we discover will depend in some degree on what we are looking for – just as Columbus could hardly have ‘discovered’ America if he had not been looking for the ‘Indies’ in the first place”. Siggelkow (2007: 21) further states that “our observations are guided and influenced by some initial hunches and frames of reference” and emphasises that “an open mind is good; an empty mind is not”. Urquhart and Fernández (2006: 5) likewise stress that the “preliminary literature review is conducted on the understanding that it is the generated theory that will determine the relevance of the literature” which should be revisited and contrasted to the emergent theory from the data.

Another feature in my methodological design (Figure 3.2) is that each phase of the fieldwork built on the knowledge that was generated from the previous phase and helped to define the framework for investigations in the next phase. This allowed me to make early links between the empirical data and theoretical ideas and check them by theoretical sampling. Corbin and Strauss (1990: 9) state that “it is by theoretical sampling that representativeness and consistency are achieved. In grounded theory, representativeness of concepts, not of persons, is crucial.”

The data collection was undertaken in three phases of field study. The first phase was a pilot study which started off the preliminary investigations for the research. As this research was to be based on empirical findings, I decided not to go into the field with too many preconceived ideologies and theories in order to test their applicability. The approach of this study was inductive in nature and its key feature is to present the realities of the target communities. To this end, it was important for me to conduct a pilot study - an initial foray into the field to initiate the research inquiry. Pilot studies serve many goals, among which Oppenheim (1997), Sproull (1998) and Sarantakos (2005) emphasise the following:

- To test the effectiveness of the research structure and the suitability of the research methods and instruments
- To ascertain the degree of diversity of the target population
- To test the response of the subjects to the overall research design
- To discover possible weaknesses, inadequacies, ambiguities and problems in all aspects of the research, so that they can be corrected before actual data collection.

The second phase of the field study was an ethnographic study. An important starting point for PAR is the lived experience of people, and the idea that through the actual experience of something we may “intuitively apprehend its essence; we feel, enjoy, and understand it as reality” (Fals-borda and Rahman, 1991: 4). In this way the knowledge and experience of people is directly honoured. My ethnographic study sought to provide this ‘lived experience’ and deeper understanding of the culture of a people.

The third phase of the field study was the action research. PAR is “rooted in cultural traditions of the common people..... which are resplendent with feelings and attitudes of

an altruistic, cooperative and communal nature which are genuinely democratic” (Fals-borda and Rahman, 1991: 5). Through dialogue academic knowledge works in dialectic with the indigenous knowledge of the people to produce a more profound understanding and collective solution that can inspire change, both in the researcher and the research participants. Against this background, a key strategy to enable dialogue was the use of focus group discussions and participatory learning workshops to explore solutions as to how ICTs may be employed better to serve the development needs of the communities while also ensuring sustainability.

So the PAR strategy has a double objective: first, to produce knowledge and inspire action directly through research; and second, to empower people on a deeper level through the process of constructing and using their own knowledge, which Fals-borda and Rahman, (1991: 16) refer to as consciousness raising, a “process of self awareness through collective self-inquiry and reflection”. Action research involves utilizing a systematic cyclical method of planning, taking action, observing, evaluating (including self-evaluation) and critical reflecting prior to planning the next cycle (O'Brien, 2001; McNiff, 2002). The actions have a set goal of addressing an identified problem (Quigley, 2000), for example, using ICTs to enable community processes. It is a collaborative method to test new ideas and it involves direct participation in a dynamic research process, while monitoring and evaluating the effects of the researcher's actions with the aim of improving practice (Dick, 2002; Checkland and Holwell, 1998; Hult and Lennung, 1980). At its core, action research is a way to increase understanding of how change in one's actions or practices can mutually benefit a community of practitioners (McNiff, 2002; Reason and Bradbury, 2001; Carr and Kemmis 1986; Masters, 1995). It tries to be a “genuinely democratic or non-coercive process whereby those to be helped, determine the purposes and outcomes of their own inquiry” (Wadsworth, 1998: 2).

The pilot study, the ethnographic study and the action research phases of this research are not independent, stand alone phases, but rather are aspects of the PAR process that fit into the overall PAR framework.

3.4 METHODOLOGY IN PRACTICE

In this section, I provide details of the field research conducted and the investigative framework used for data collection including the sampling strategy and a review of the

data collection methods used. The research adopted a flexible multi-method approach that was designed to be responsive and diverse, employing a range of methods to be drawn on for different purposes, added to and adapted as necessary. Central to these methods were participant observation, keeping of field notes, in-depth interviews and focus group discussions. Different methods were employed at each stage of the field research based on the suitability of the research instruments to the problem at hand (see Table 3.2).

TABLE 3.2: Investigative Framework

FIELD RESEARCH	DURATION	RESEARCH QUESTIONS TO ANSWER	DATA GATHERING METHODS
Phase 1 Preliminary Investigations	One Month	<ul style="list-style-type: none"> ▪ How do Niger Delta people define 'community' and 'sustainability' and why? 	Focus Group Discussions Unstructured Interviews
Phase 2 Ethnographic Study	Four Months	<ul style="list-style-type: none"> ▪ What are the social structures, cultural influences and network of interactions that define these communities? ▪ What are the information and communication needs of these communities? ▪ What are the indigenous communication and information networks in these communities and why are they structured as they are? ▪ How and why ICTs are interacting with these indigenous communication systems? 	Participant Observation Field Notes In-depth Interviews (semi-structured and unstructured)
Phase 3 Action Research	Three Months	<ul style="list-style-type: none"> ▪ How can ICTs best be deployed to meet the communication and information needs and also contribute to the development of sustainable communities? 	Focus Group Discussions Participatory Learning Workshops

3.4.1 Preliminary Investigations

The specific goals of the preliminary investigation were to

- Start my research into the Niger Delta, especially the history, geography, ethnic groupings and the people.
- Gather foundational information that would guide the research process, especially for sampling and ethnographic study.
- Answer the initial research question that seeks to understand ‘Community’ and ‘sustainability’ as constructed by the people.
- Identify sites for the ethnographic study

The results of the preliminary investigation were analysed in the context of the research questions, and offered an opportunity for adjusting and ‘fine tuning’ of the methodology. The study employed two main methods for data collection: Focus group discussions (FGD) and Unstructured interviews.

3.4.1.1 Sampling

The Niger Delta consists of nine states, and the study was conducted in three of these, namely Rivers, Bayelsa and Akwa Ibom states. These states were predetermined and selected based on the location of the three largest ethnic groups in the Niger Delta, the Ijo, Ibibio and Ikwerre. In each state three communities were selected based on the diversity of their cultures, ethnicity, differing levels of development and population to represent effectively the Niger Delta as a whole. Of the three communities in each state, one was urban and two were rural, to enable a comparative analysis of rural versus urban constructions of meanings of ‘community’ and ‘sustainability’.

Another factor that influenced the selection of research sites was the location of research assistants. I worked with nine research assistants, selected from the National Youth Service Corps (NYSC). This is a government run program that posts recent graduates to communities all over Nigeria for national service. It is a requirement that every graduate in Nigeria must give a year of service to their country by serving in a community, mostly as primary school teacher, local government intermediaries and as health workers in the community. After graduation, the university post them to their community of primary assignment. I chose to work with those who had just completed the

national service because they had worked in these communities for a year and were very knowledgeable about the people and are always well received and loved by community members because of their service. They acted as key informants to facilitate access to local knowledge and communities. I initially gave them an orientation on my research goals and the roles I wanted them to play in the research process as well as the skills they required to record interviews. Their role was to introduce the research to the community they serve, assemble the different groups for focus groups and take notes while I conducted the focus groups and interviewed participants. They also acted as information sources on community traditions, systems, structures and made introductions to community leaders. I interviewed these research assistants several times on community practices. Based on their experience in the community, these NYSC members could reference multiple perspectives from a broad range of community groups. They served not only as actors in community processes, but also as observers of community practices from an objective distance because they were not members of the community but resident visitors. Their dual perspective was very useful for the research process and provided a separate lens on local experience.

3.4.1.2 Focus Group Discussions

A formal focus group format was developed as a guide during discussions (Appendix A). The main purpose of the focus groups was to explore and understand participants' knowledge, perceptions, beliefs and practices (Kumar, 1987) regarding communities and sustainability. Sarantakos (2005) states that using focus groups as a pre-research method can help to prepare the main study by providing sufficient information about the study object. He further states that group discussion is employed to bring about changes in the group and its members, as a result of the direction and intensity of the discussion and provides valuable information about group processes, attitudes, changes and manipulation, the attitudes and opinions of group members, and the effectiveness of certain methods. In the preliminary investigations, the focus groups provided an introduction into the attitudes of participants and highlighted the power dynamics of certain groups and informed the research direction. These focus groups also offered access to the construction of the meanings of 'sustainability' and 'community' while the participants interact, the variations of these meanings, and the ways in which the group negotiates and constructs them. Lunt and Livingstone (1996: 96) argue that the use of focus groups can "generate diversity and

differences either within or between groups, and reveal... the dilemmatic nature of everyday arguments”.

Sarantakos (2005) argues that a focus group approach nevertheless also has weaknesses, the three most important of which are:

- Group members may hide their opinions, for whatever reasons
- Some members may dominate sessions, while some may not participate at all
- Members may offer a collective front and mislead facilitator

To address this, unstructured interviews were also subsequently conducted individually with focus group participants, especially with those who did not actively participate to validate some of the findings and to get those opinions that could not be aired publicly. Open ended questions were asked at the start of the discussion to allow participants to answer from different angles and perspectives. These questions were designed to give the participants opportunities to express their thoughts and feelings based on their specific situations.

The focus group format and guide was tested on colleagues before proceeding with the fieldwork. The focus group format included key questions that needed to be answered and prompts under each key question (format in Appendix A). These prompts encouraged the participants to give more substantive answers, and included questions such as *What else?; Anything else?; What does community mean for you? How would you describe that feeling in other words?..... to someone who is from outside this community; Does anyone feel differently about this issue?*

In each state four focus groups was conducted. Table 3.3 shows the size and number of focus group in the each state. One was with females and another with males under the age of 35, the third was with older women and the fourth was with men over 35. So in total there were 12 focus groups. Three focus groups were conducted in more urban communities and nine in more rural communities. Participants were drawn from various backgrounds ranging from students, professionals and civil servants to artisans and market women. Group size ranged from between 5 -14 people.

TABLE 3.3: Focus Groups

FOCUS GROUPS	COMMUNITIES	SIZE	AGE RANGE
AKWA IBOM STATE			
Older Men	Mkpoku Oyekan	12	45-65
Older Women	Mbiaya Uruan	9	43-60
Young women	Uyo	5	18-28
Young Men	Anua	6	18-35
RIVERS STATE			
Older Men	Ogan Amah	8	36-57
Older Women	Ogan Amah	14	34-68
Young women	Rumuji	7	19-28
Young Men	Rumuji	14	21-35
BAYELSA STATE			
Older Men	Imiringi	7	40-60
Older Women	Amasomma	5	32-55
Young women	Yenagoa	7	19-24
Young Men	Yenagoa	12	21-32

3.4.1.3 In-depth Interviews

I used focused in-depth interviews during the preliminary study to reveal the meanings, narratives, experiences, feelings and motivations (Collis and Hussey, 2003; Tacchi, Slater, and Hearn, 2003; Walsham, 1995b; Yin, 2003) around community and sustainability.

An interview guide was developed (see Appendix B) and refined as investigations progressed. During the course of the initial interviews, some questions were modified and rephrased as the effectiveness and ineffectiveness of certain questions was revealed. They were also refined as key recurrent threads emerged and in most cases it was adapted to the actual circumstances of the interviewee. The main languages used during interviews were English, Pidgin and Ibibio. As a citizen of the Niger Delta myself, I could speak the local language 'Ibibio' which is spoken in two of the communities studied. So I conducted several interviews in these two communities with a blend of English, Pidgin and Ibibio. I found this very useful because the people could articulate their views more clearly in their local language. There were, however, six instances where translation was required as I interviewed participants from two other communities where I could not speak the local

language. This is where the research assistants were essential, since they provided the additional linguistic expertise.

Unstructured interviews were chosen because of their open ended character. May (2003: 121) argues that “in moving from a structured interview to the unstructured interview, researchers shift from a situation in which they attempt to control the interview through predetermining questions and thus ‘teach’ the respondents to reply in accordance with the interview schedule, to one in which the respondent is encouraged to answer a question in their own terms”. He further states that this creates an unstructured situation of qualitative depth, which allows the respondents to answer without feeling constrained by pre-formulated questions with a limited range of answers (May, 2003).

104 semi-structured interviews were initially conducted in the nine communities with an average of 10 interviews per community, with the exception of the communities of Rumuji and Mkpoku Oyekan which had 15 interviews and Amasomma which had 14 interviews. An attempt was made during the interviewing to select a wide range of participants to incorporate a diversity of views from the Niger Delta people. After a preliminary analysis of the interview data, emergent themes were identified and another set of interviews that were structured to address these themes was conducted. 45 interviews were conducted in this second round and four communities which were revisited for interviews. I could not go back to all of the communities because of the time and budget constraints. The four communities revisited however provided sufficient data to answer the questions that arose from the previous round.

3.4.2 The Ethnographic Study

According to May (2001) social life is not fixed but dynamic and changing. He argues that if people’s social lives are constantly changing, we must become part of their lives to understand how they change; we must participate in it and record our experiences of those transformations, their effect on people, as well as their interpretations. Knowledge of the social world does not come from logical propositions but rather it comes from experience and the undertaking of detailed and meticulous inquiries through which we generate our understanding (May, 2001).

For this research, in which sustainability of these communities is a desired end, understanding the incremental and progressive nature of people's social life is crucial. The dynamism of a given community needs to be understood to be able fully to explore what solutions may be suitable in the long term. I considered it important to participate in social relations and seek to understand actions within the context of the observed setting. May (2001) further states that researchers must become part of that environment, for only then can they understand the actions of people who occupy and produce cultures defined as the symbolic and learned aspects of human behaviour which includes customs and language. Communications are processes that involve a mix of media, organised in specific ways, through which people connect with their social networks. In every community there are many different people, media, activities, and relationships involved. Ethnography was considered the most appropriate method for studying these communicative patterns.

Ethnographers immerse themselves in the lives of the people they study (Lewis, 1985:380) and seek to place the phenomena studied in their social and cultural context. After early work by Wynn (1979), Suchman (1987) and Zuboff (1988), ethnography has now become more widely used in understanding the social context in information systems studies (Myers, 1997; Myers and Tan, 2002; Orlikowski and Baroudi, 1991). Sarantakos (2005) identifies the following as some of the major reasons why ethnography is important as a method for research studies:

- To observe the culture and interactions within a target community.
- To tell the story of community daily life.
- To explore the process and outcomes of community interactions and social networks.

Previously ethnographic research was largely the domain of anthropologists but with recent developments in the social sciences, it has become rather popular, especially 'critical ethnography' (Anderson, 1989; Hammersley, 1991, 1992; Hammersley and Atkinson, 1983; Taylor, 2001; Warren and Hackney, 2000). The key features of ethnographic research as identified by Hammersley and Atkinson (1995) and Pfeifer, (2000) is that it is a form of field research that studies cultures and employs a holistic approach. This holistic approach was the key reason why ethnography was selected for the

second phase of the field work. It is conducted in 'natural' settings and entails a total 'sinking' in the field of study (Hammersley and Atkinson, 1995:10). The socio-cultural perspective is an important aspect of this research and the ethnographic approach provided the tools to understand the culture through in-depth study and the meanings of the participants.

The ethnography in this research adopts a critical hermeneutic approach. Critical ethnography builds upon conventional ethnography that involves learning from people in order to understand their culture. Roper and Shapira (2000) suggest that in this methodology the researcher's perspective becomes that of both an 'insider' (emic) and an 'outsider' (etic). By combining this emic and etic perspective, one may develop a holistic understanding of the culture of study. In critical studies such as this, ethnographic research aims to emancipate, empower and liberate people (Sarantakos, 2005). Having clarified why ethnography was selected as the most appropriate method to achieve research goals, I must however note that the major critique of ethnographic research is the question of reliability and validity (Seale, 1999; LeCompte, and Goetz, 1982). Wolcott, (1990:127-8) offers useful tips on how ethnographic researchers can ensure validity in their work. These were adopted during the course of this research, and are as follows:

- By talking less and listening more
- By producing exact and accurate notes that are as complete and candid as possible.
- By writing early and in a way that brings readers to the field
- By seeking verification and feedback from the field and/or colleagues

As argued at the beginning of this chapter, the ethnography for this research was guided by grounded theory which takes a different form than other types of ethnographies. Grounded theory ethnography gives priority to the studied phenomenon or process rather than to a description of setting (Charmaz, 2006). Thus from the beginning of the ethnography, the study was based on what is happening in the setting and making a conceptual rendering of these actions. Charmaz (2006) further argues that, a potential problem with ethnographic studies is seeing data everywhere and nowhere, gathering everything and nothing. The studied world seems so interesting that the ethnographer tries to master knowing it all, which is never actually possible. Mountains of unconnected data grow but they do not say much, because they are insufficiently related to insufficiently

rigorous externally defined aims and objectives. This leads to low level descriptions and lists of categories that are not integrated. This is one of the main reasons why I deliberately sought to explore as much relevant literature as possible before going into the field. With grounded theory, Charmaz (2003) suggests that concentrating on a basic social process can help in gaining a more complete picture of the whole setting than the former approach common in earlier ethnographic work. She states that ethnographers can make connections between events by using grounded theory to study processes. She further states that the grounded theory emphasis on comparative method leads ethnographers to:

- Compare data from the beginning of the research, not after all the data are collected,
- Compare data with emerging categories and
- Demonstrate relations between concepts and categories.

Covey and Atkinson (1996) also advocate this approach, arguing that moving back and forth between data and analysis helps to keep the researcher from feeling overwhelmed and to avoid procrastination. The ethnographic study for this research takes into consideration the above views, and it is largely based on the work of Charmaz (2006). These methods were very useful in helping me to maintain control over the research process because they enabled me to focus, structure and organize the study. The ethnography focused on the social and communication processes in the communities. It selected aspects of these processes and asked questions about them such as:

- Who uses it and for what purpose?
- Where does it fit in the system of classification on emerging themes?
- What resources are needed to make it happen?
- How are these, socially mobilized?

Communities comprise of complex social networks (Wellman and Frank, 2001), with equally complex and consequential inclusions and exclusions. They contain flows of information and communications as well as blockages to those flows (Serveas and Lui, 2007; Weigel, 2004). Social exclusion plays a key role in sustainability of a community (Gilchrist, 2000). Inclusion in social networks provides vital access to information, social support, confidence and the ability to participate in collective life. My ethnography investigated such social networks with questions like.

- Who is connected to whom?
- What is the social and geographical range of people's connections?
- At what point and for what reasons are people excluded and prevented from making connections with others?
- How do people use their connections?
- How is information circulated?

Communications and information are the lifeblood of sustainable communities (Weigel and Waldburger, 2004; Marker *et al.*, 2002), so the ethnographic study also observed the information networks within these communities. It sought to understand:

- How and why communities gather and receive information?
- What types of information is exchanged?
- What is the motivation for getting information?
- What do they do with this information and
- What difference this information make?

The ethnography adopts some of the anthropological style of doing field work, in the sense of collecting clues to help solve the mystery of culture. In this case, it aimed at understanding how these may affect the sustainability of social and communication processes in the future. The ethnography went beyond just asking questions of the community social and information systems. It delved further to ask:

- Why do the research participants do things the way they do?
- What are their motivations and goals?
- How are they constrained by the cultural definitions of ethnicity, gender, age, class?

I explored these questions using interview data, field observation and the analytical memos I wrote from the data collected.

3.4.2.1 Sampling

In the second phase of the field research, the sampling size was smaller to allow for a more in-depth and rigorous analysis. The ethnographic approach meant longer periods of time

were spent in each community. It was conducted in Akwa Ibom and Bayelsa states. These two states were selected because the two largest ethnic groups in the Niger Delta are located there and they have the highest settlements of indigenous populations; four communities were studied, using participant observation, field notes and in-depth interviews. This phase spanned four months and I immersed myself in each community for a month.

Participants were selected to ensure the representativeness of different demographics of people. The key demographics I wanted represented were young men and women, old people, illiterate and educated people, retirees, community leaders, small business owners, farmers, market women, out of school youths, graduates and civil servants because these groups of people are found in every community and would ensure representativeness. I obtained oral informed consent from individuals and from the leadership in the community. To obtain consent from community leaders I did the customary thing of meeting with them and giving the leaders a bottle of spirit which is considered a sign of respect and officially asked their permission to enter their communities and conduct my research. In all sites permission was granted and in a couple of sites announcements were made to the public to offer me their support, because I was their ‘daughter’ or ‘wife’.

Fifty-five individual participants were interviewed at least once, usually in their homes or on street corners and for business owners at their place of business; 25 were interviewed two times, but usually each interview lasted about one hour. In addition to the 80 initial interviews, 72 people were interviewed separately strictly on their ICT usage patterns (see Appendix F). These were short interviews that lasted only about 15-20 minutes. Participants received little gifts of cash and refreshments because the majority of them claimed they were too busy to stop and chat. These gifts assured me at least one hour of their time.

Three key methods were used to collect data in the ethnographic study: participant observation; field notes and in-depth interviews (unstructured and semi-structured). I now present some details on how they were used.

3.4.2.2 Participant Observation

This is a central research method for ethnography and was a major part of the study (DeMunck and Sobo, 1998). Participant observation was developed in the late 19th century as an ethnographic field method to study small, homogenous cultures (Tedlock, 2003). Schensul, Schensul and LeCompte (1999: 91) define participant observation as "the process of learning through exposure and involvement in day to day or routine activities of participants". Gans (1999) considers participant observation as the most scientific method in qualitative research because it gets close to the people and allows researchers to observe what people do, while all the other empirical methods are limited to reporting what people say about what they do. This method was used during the ethnographic study as an avenue to build informative and research relationships with the community and learn about community practices in their setting through observing and participating in its activities. These observations also provided the context for sampling and testing the appropriateness of the interview guides (Dewalt and Dewalt, 2002). Participant observation was also used to triangulate conflicting research data and check the validity of participant's claims with the realities I was observing.

The observations focused on the studied processes, and enabled me to examine nonverbal expressions of feelings (Schmuck 1997), determine who interacts with whom, provide insight into how participants communicate with each other, and assess how much time is being spent on certain communicative practices (guide in Appendix E). Marshall and Rossman (1995) argue that participant observation allows researchers to check definitions of terms used in interviewing participants and observing events that informants do not share because doing so would be improper, rude or insensitive, and observe situations that informants have described in interviews, and thus warn them about distortions or inaccuracies in the description provided by these informants. Fine (2003:41) suggests that ethnography is most effective when one observes the community under study in scenarios that empowers one to "explore organizational routines of behaviour".

The observations included formal events like community meetings, political gatherings, traditional council meetings, and decision-making processes as well as informal events like casual conversations, socialising, and routine work. Social events such

as celebrations, cultural gatherings, street events and private spaces were also observed. These observations were documented in detailed field notes for subsequent analysis.

3.4.2.3 Field notes

Field notes were the second primary sources of data I collected during the ethnography. My field notes contain detailed descriptions and explanations of observations. I used field notes to record observations and also to develop my ideas and document my interpretations. The field notes were also useful as prompts during interviews where I wanted to delve further into certain threads I had observed and in situations where participants gave one word answers such as *yes* or *no*.

According to Charmaz (2006), in addition to recording individual and collective actions and containing full notes with anecdotes and observations, field notes of observation in a grounded theory project may also:

- Emphasize significant processes occurring in the setting
- Address what participants define as interesting and/or problematic
- Attend to participants language use
- Place actors and actions in scenes and contexts
- Become progressively focused on key analytic ideas.

Fully fleshed out notes were written at the end of each day. These provided a log of the main activities and events of the day that I observed and participated in. They also included details of activities and events such as when, where, and what happened, what people said and what they did. More importantly, they included my own interpretations of these activities and identified concepts for possible theoretical categories. My personal opinions and reflections were documented in the notes as well. The field notes were also used to develop ideas and theoretical categories which would be used for coding and analysis (see Figure 3.3). At the end of the fieldwork I had produced more than 100 pages of hand-written notes.

Data was collected over a period of 4 months between March and July 2008. The study did not attempt to collect quantitative data from a statistically representative sample of the population. Sawhney and Gomez (2000) argue that even with a small set of

interviews across participants from different backgrounds, gender, ethnicity and social status, an ethnographic study can provide an understanding of broader patterns in society.

In the field notes I recorded individual and collective actions under the studied process, and I became progressively focused on key analytical ideas as the study progressed (see Figure 3.3). This meant that in the first site the interviews and observation were more general and in the latter sites I sought to refine the theories that were emerging, so the interviews and observations became more focused and specific. This focus was not so rigid as to impede the development of new analytical ideas. The process actually made the differences in the other sites more obvious. I found this process most useful in fleshing out the core analytical themes I wanted to understand and explain. I employed a key feature of grounded theory by constantly going back to the data and forward into analysis while still in the field.

Observations and documentation was made of the pace and nature of daily life, and variations in the rhythm of communal activities over the four week study period in each community. In addition to communication related observations made during interviews or visits to homes, I also made extensive observations of interactions among family members, community members and at social events. Written field notes about these observations included location, time of day, persons present, languages used during interaction, topics discussed, duration and nature of information exchanged, activities undertaken or tasks performed. On five occasions, I provided transportation and accompanied market women and local traders to their stalls and observed their interactions with others.

not fixed or rigid, to allow for the exploration emerging ideas based on answers to the questions. There were one-on-one interviews with key informants, community figures, community members from different works of life and different age groups. There were 15 household interviews conducted in homes of participants. The initial interviews were unstructured with only topical guides and as the interviews progressed they became more structured to explore further the emerging categories after analysis.

There were also seven group interviews conducted during the course of the ethnography. The group interviews comprised of between 3 – 5 people who were purposively selected to ensure representativeness. The groups interviewed included farmers (both men and women), fishermen, market women, and Okada riders. They targeted socially excluded groups like women, rural and illiterate people, and they took the form of an in-depth informal chat that was quite focused and sought to gain a richer and more exploratory material on community culture. The group interviews allowed for the exploration of group norms and dynamics around certain issues. The purpose of these interviews is not to explore personal issues or topics but rather communal issues like meanings, values, social networks, and social exclusion. These interviews were topical. They were audio recorded as it was more difficult to document multiple opinions in writing while the interview is on. The participants were assured of confidentiality.

Through a series of open-ended questions, community members were asked to describe their backgrounds, present socio-demographic circumstances, their own experiences with ICT, their interactions within the community, and their ideas about how ICTs may be deployed to help in the development of their communities, and their daily practices around transmitting and receiving information. As necessary, each respondent was asked follow-up and probe questions to ensure that as complete an account as possible was generated during the conversation.

In the intensive interviews the emphasis was on obtaining narratives or accounts in the person's own terms. I developed an interview guide (see Appendix C) which served as a primary reference, but changed questions based on the responses heard. A series of probes (often connected to a specific question) was asked to engage the participants to discuss issues not mentioned or only slightly disclosed earlier, as for example: "you have

mentioned that... why? What does it mean for you?" I recognized that such a social inquiry in the field requires flexibility on my part to refine goals, methods and tasks, based on the emerging characteristics of the people and environments studied. This continually evolving approach to methods was a central element of the research process. I did not tape record the interviews because the participants preferred not to have the interviews recorded. They were nervous, and their answers sounded too 'proper' (and thus false) and two people declined to participate when an initial attempt was made to record these interviews. But once I told them I would be taking notes instead, they were more relaxed and accommodating and I was able to develop a rapport with them. I employed a research assistant who conducted these interviews with me. He took detailed notes while I concentrated on taking down key points that were emerging that I wanted further answers to. We compared notes after each interview and later typed the full interview in detail. So there was a transcript of each interview conducted.

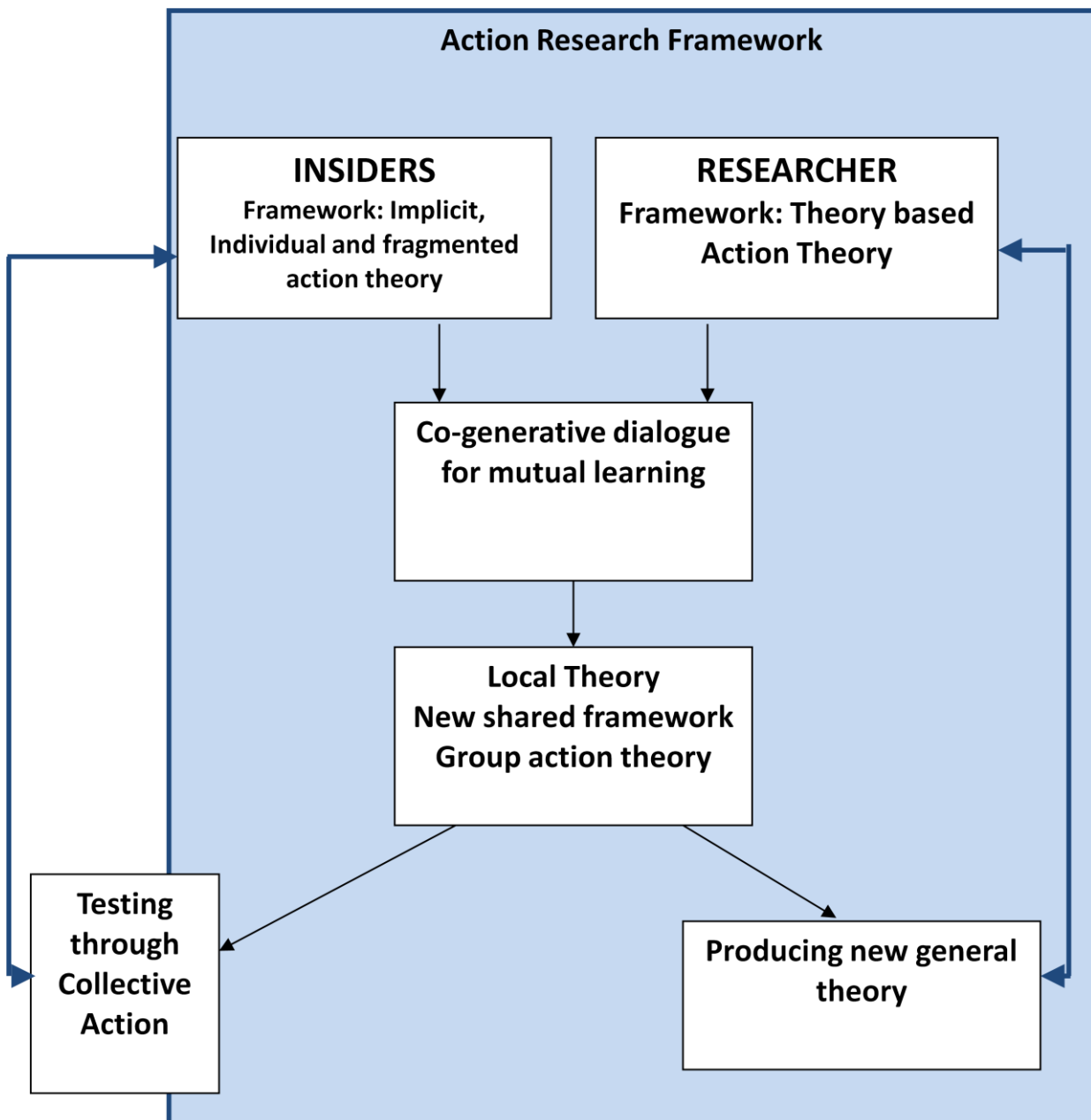
3.4.3 The Action Research

Much of the literature on PAR focuses on actions or changed actions (see Levin, 1994; Lofland and Lofland, 1984; Reason, 1988; Whyte, 1991; Dick, 2002 and Fals-borda and Rahman, 1991). The action research phase explored what the future needs of communities may be regarding information and communications. It also examined their own skills individually and collectively as a community as they deliberate on options of ICT media most suitable to their needs and social contexts. I refer to the third phase of the field work as action research for the purpose of delineation. The overall research framework is an action research framework because it is designed as a cyclical model of phased data collection punctuated by cycles of reflections and analysis. The key feature of the action research phase of my field research was collaboration and joint knowledge building. Elden and Levin (1991) put forward an approach to collaborative knowledge creation which they have termed *Co-generative Learning*. This model involves a collective process of critical reflection between research subjects and the researcher. The action research framework was based on this co-generative learning model. A key strategy to enable dialogue is to use focus group discussions and workshops to explore solutions in a process of collaborative sense making that will generate new theory, so that new knowledge emerges as the involved parties (researcher and community members) negotiate the meaning generated within the process of solving the problems identified.

The focus group discussions and workshops towards the end of my field work were designed to explore solutions in a process of collaborative sense making to generate new theory. It was intended that new knowledge would emerge as the involved parties (researcher and community members) negotiated the meanings generated within the process of solving the problems identified. In the model represented in Figure 3.4, there are two different types of participants: the Insiders and the Researcher. Each has different frameworks that they bring to the table. In my case, the insiders were the people of the Niger Delta who were identified during my ethnographic fieldwork, and volunteered to participate in group discussions. The basic idea behind this model is that the insiders who provide information to the researcher have their own ideas, models or frameworks for attributing meaning and explanations to the world they experience. Those who spend their lives in a particular community know more about it, but may not be able to express it or have ways of making sense of their world that would be possible for an outsider to appreciate without becoming an insider. They are experts in their own way because they have knowledge from personal experience of how things work and how the elements are connected to each other as well as about values, attitudes and local community culture. Their knowledge tends to be highly individual, and not systematic, it is tacit and not reflected on. Their initial framework comes from how community members make sense of their situation. During our discussions, I presented the participants with the findings from the ethnography to reflect upon as we tried to make sense of these issues together (Appendix G).

The researcher, on the other hand, is acquainted with the process of systemic enquiry and analysis, recognising patterns and creating new knowledge. My initial framework was therefore based on a particular way of thinking about the problem at hand. My framework is different from that of the insiders, even though I am Nigerian; it is more explicit, full of ideas with abstract concepts, and a high degree of formalism. In my case this reflected a particular interest in how ICTs can be utilised to help the insiders' communities and aid sustainable development. My ethnographic research gave me a richer understanding of the local situation to be able to guide the research process and contribute to the learning exercise. The focus group discussions and workshops provided a forum where the participants and I could make a connection and integrate our different forms of expertise and different initial frameworks to generate a 'practical theory' of the local situation.

FIGURE 3.4: The Co-generative Learning Model



Source: Adapted in part from Elden and Levin's *Co-generative Learning*, (1991)

The action research within this context seeks to inspire new actions through the process of collaborative discussions. Specifying what those actions will be is difficult to know during the course of this study and outside the scope of the research (see. Figure3.4). Action research as utilised in this research is designed not only to understand and report on a given problem, but also to provoke change through action. The actions are defined by a constant cycle of taking and giving in the form of planning, acting, observing and

reflecting (Hearn and Foth, 2005). Foth and Axup (2006) state that action researchers immerse themselves with the subjects under investigation in order to connect with them and encourage them to directly participate in the project as co-investigators. It is a process that “engages all project stakeholders in constantly moving between knowledge generation and critical-informed reflection, in a spiral directed at reaching a stage of improvement from which the process can start all over again – but this time towards an even higher level of understanding and achievement” (Foth and Axup, 2006: 94).

It would require a further evaluative study to assess its impact. The immediate ‘actions’ that result from this participatory process is the development of a locally constructed theory on preconditions for the successful implementation of ICT solutions for Niger delta communities and the development of an integrated media framework for ICT facility in Niger Delta which is provided for one of the communities that would like to offer it to Shell to implement on their behalf as part of their sustainable community program.

3.4.3.1 Sampling

These highly participative exercises involved 143 people in the four communities of: Mbiaya Uruan, Anua, Amassoma and Ogan Amah. These communities were selected for three main reasons: their geographical spread; they cover the two largest ethnic groups in the Niger Delta; and practicalities, particularly what was achievable, in terms of site visits, information available and location of key informants.

Two series of group meetings were held in each community. The first was with the general public including market women, fishermen, farmers, and civil servants, and the second series was with the community leaders. The sampling for the first series of discussions was in essence based on those who were willing to participate, although an attempt was made to include people who were least empowered within the communities, poor people struggling for survival and to ensure representativeness of the community enough to make generalisations about the whole population. The sampling for the second series of discussion was purposive, based on a specific set of criteria, including leadership role, membership in the village council of chiefs, and community influencers who play a key role in the decision making process on community matters and heads of community

associations. The people I met in the villages were asked to provide names of people that fit these criteria and this was the basis for their selection. The discussions with the general public, I will refer to as the Public Group, and the one with the leaders I will refer to as the Leaders' Group. The format and structure for the two groups was different. I used a workshop style format for the Public Groups, which included brain storming activities, gathering varied opinions and a free for all type of situation, and a processing of key ideas from the people to be presented to leaders. On the other hand, the Leaders' Groups adopted a more formal focus group format because the group was much smaller and more deliberative and discussions were more focused on actions required to address the issues raised. The discussions were also more structured. Focus group discussion was also adopted because they can also enable the testing of group strategies in solving problems (Flick, 1998).

TABLE 3.4: Group Sampling Size.

OGAN AMAH COMMUNITY	
GROUP TYPE	SIZE
Public Group Workshop	22
Leader's Focus Group	11
MBIAYA URUAN COMMUNITY	
GROUP TYPE	SIZE
Public Group Workshop	28
Leader's Focus Group	5
ANUA COMMUNITY	
GROUP TYPE	SIZE
Public Group Workshop	32
Leader's Focus Group	5
AMASSOMA COMMUNITY	
GROUP TYPE	SIZE
Public Group Workshop	31
Leader's Group Focus Group	9

As the key focus of this research is the development of sustainable communities in the Niger Delta, it is important not only to analyse these groups but also to provide a forum that facilitates group discussion, to brainstorm a variety of issues as they relate to communities and to establish a mechanism for opinion formation. Using focus group discussions encouraged discussion, increased the motivation within group members to address these issues, and produced the opportunity for a controlled presentation of personal views. The decision to hold two types of meeting was based on the findings from interviews and observations carried out in phase two of the field research. These suggested that people would be more open and honest in their discussions if the leaders were not present. Yet nothing could be achieved within the communities without the involvement of the leaders. I scheduled the meetings so that I always met with community members first to get a sense of what the people were thinking before I held the Leaders' Group meetings. Table 3.4 shows the sampling size in each community. The Leaders group meetings were with those who I determined were 'community influencers', who are viewed as problem solvers in the community and they are the ones who make the crucial developmental decisions in their communities, and who organise people for collective action and advocacy. No initiative can be implemented in these communities without their approval and the people look up to them for guidance and leadership. In view of this, it was considered important to have a specific separate meeting, with them where themes that emerged during the workshops could be further developed so that actionable knowledge could be produced.

3.4.3.2 Data collection

All focus group discussions and the workshops were recorded and my research assistant continued to work with me during these meetings. His role was the audio recording of these meetings and group coordination and control. He moved the microphones around and ensured that the voices of all people were heard as they contributed their opinions. I focused on guiding the discussions and taking notes. While discussions were taking place I documented emerging concepts and identified themes for further discussions. A discussion guide was developed (Appendix G) prior to the meetings that included the findings from the ethnographic part of my research. I guided the discussions as a facilitator and ensured that participants understood that we were as far as possible equal partners in the discussions and that our different frameworks were important to the co-learning learning

process. After the meetings the audio was transcribed by the research assistant and me. This transcription was not 100% verbatim because in a workshop situation discussions go back and forth on the same issues and sometimes more than two people attempt to talk at the same time. We however ensured that every idea and issue raised during the discussions was documented as closely as possible.

3.5 ANALYTICAL FRAMEWORK

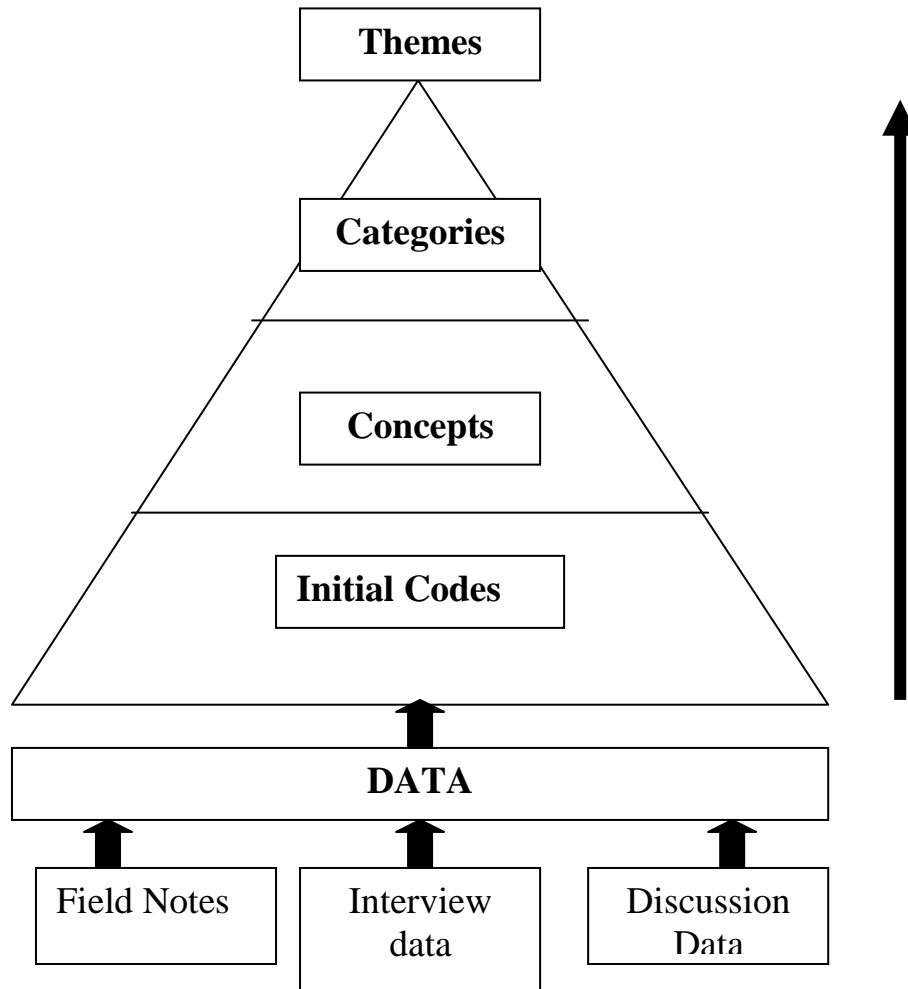
The investigative framework did not include a formal analytical framework with analytical categories because I did not want to impose a structure that would pre-explain the data. I wanted the data as far as possible to tell their own story from a *bottom up* approach, where the theory is developed directly from the data itself (Glaser and Strauss, 1967). The data analysis involved generating concepts through the process of coding which “represents the operations by which data are broken down, conceptualised, and put back together in new ways. It is the central process by which theories are built from data” (Strauss and Corbin, 1990: 57). It is essentially a bottom up approach to data analysis, and begins at the word or sentence level and moves to a higher level of abstraction by grouping conceptually-related focused codes. Figure 3.5 depicts the analytical path I used to enable theory construction.

The analysis was conducted at two levels during the research. The first level was during data collection, and the second level was at the end of each phase of field work. The analysis after the data collection was designed to make early links between the empirical world and theoretical ideas—and checking them—*theoretical sampling* (Charmaz, 2003; Corbin and Strauss, 1990). Dey (1999) building on Creswell (1998) provides the following steps for analysis using grounded theory techniques:

- Data analysis is systematic and begins as soon as data is available.
- Data analysis proceeds through identifying categories and connecting them.
- Further data collection (or sampling) is based on emerging concepts.
- These concepts are developed through constant comparison with additional data.
- Data collection can stop when no new conceptualisations emerge.
- Data analysis proceeds from ‘open’ coding (identifying categories, properties and dimensions) through ‘axial’ coding (examining conditions, strategies and consequences) to ‘selective’ coding around an emerging storyline.

- The resulting theory can be reported in a narrative framework or as a set of propositions (Dey, 1999: 1-2).

FIGURE 3.5: Analytical Path



3.5.1 Analytical Path

The analytical framework involved four major steps (see Table 3.5). The first and second stages were ongoing during data collection in the three phases of the field work. I was continually refining, adding, deleting and renaming possible categories. I could not fully conduct axial coding while in the field for two reasons. One was the time constraints. I was working in different sites and I spent a lot of time collecting data that needed to be reviewed on a daily basis to identify important issues for further data collection. Second, I needed to have a fuller picture from all the study sites to be able categorically to identify

and make connections between concepts. The last two stages were conducted after each phase of field work.

I had three types of data to analyse: interviews, field notes and data from focus group discussions. Although I applied basically the same analytical process to all the data collected, I need to explain here in more detail how the data from the focus groups were processed. The notes from each of the focus groups were reviewed in turn and I listened to the recordings of the discussions again. During this process I identified key themes that emerged during discussions and documented the different positions that emerged under each theme. Then I summarised each of the different positions and wrote down the verbatim phrases that represent each of these positions. Once this process was completed on all the focus groups I compared and synthesized the themes and phrases that emerged from each focus group, identifying the recurrent ideas. Then I interpreted these recurrent ideas based upon other findings that emerged in the groups and identified the differences expressed for each topic, summarizing the findings and group discussion. This process produced rich data that was used in the subsequent analysis. In the following segments, I provide a description of how these analytical stages were conducted and exemplify the coding process.

TABLE 3.5: Four Stages of Analysis

Stages	Purpose
<i>Codes</i>	Identification of key points that may be important to research. Noted important instances and highlighted key passages of transcript that allow the key points of the data to be gathered.
<i>Concepts</i>	Grouped codes of similar content and assigned abstract conceptual labels to them and collect various illustrative quotes to ‘saturate’ these conceptual labels.
<i>Categories</i>	Moved to a higher level of abstraction, refine and edit initial list of categories. Compiled wide groups of similar concepts that can be used to generate a theory. Then relate and link this list of categories using axial coding to make connections between the categories and define their properties e.g. causal context, intervening conditions.
<i>Themes</i>	Then identify core themes which are distinct and unify ideas that address the phenomenon under study e.g local constructions of sustainable communities.

3.5.1.1 Codes and Concepts

The initial coding consisted of two phases: initial and focused coding (which I refer to as concepts). “Coding means categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data” (Charmaz, 2006:43). Grounded theory coding is a form of content analysis to find and conceptualise the underlying issues amongst the ‘noise’ of the data. Coding is the pivotal link between collecting data and developing an emergent theory to explain these data. Through coding, one defines what is happening in the data and begins to grapple with what it means (Charmaz, 2006). Strauss and Corbin (1998: 65-68) recommended coding by “microanalysis which consists of analysing data word-by-word” and “coding the meaning found in words or groups of words”.

This analytical technique of coding by micro-analysis of the data, word-by-word and line-by-line, had two drawbacks for me. First, it was very time consuming. The transcription of each interview contained a mass of data that had to be studied to locate the information relevant to the research topic. Second, it led to confusion at times. Dividing the data into individual words caused me to become lost within the minutiae of the data. So many words being picked over individually led to confusion. I was overwhelmed by the large volume of data I needed to micro-analyse. There were times when I lost focus in the early days of the research. I experienced doubts about what it was that I was looking for and even considered changing my methodology all together. Further reference to the grounded theory literature uncovered the rift between Glaser (1992) and Straus (1987) on this issue.

Glaser (1992:40) condemned this micro-approach and referred to it as producing an “over-conceptualisation”. I chose therefore to follow Glaser’s proposed method of identifying key points (rather than individual words) and allowing concepts to emerge. This involved the selection of key points that address the research questions and it is in line with qualitative coding analysis (Miles and Huberman, 1984) as a protection against data overload. Dey (1993: 94-97) talks of “bits of data” that are considered important. Therefore, I sought to identify key points in the data and marked them ready for analysis and coding. This method of identifying key points was very effective in helping me to sort, organise and manage the analysis. The coding process started by taking a sentence at a

time and examining it. I studied fragments of data - words, lines, segments and incidents – closely for their analytical relevance. While in the concept coding, I selected what seemed to be the most useful initial codes to test them against my extensive data. Throughout the process I was comparing data with data and then data with codes. I made constant comparisons. For the first interview I was merely asking myself: What is going on here? What is the situation? What is the person saying and doing about that situation? Therefore, what categories are suggested by this sentence? I would then code the second interview with the first interview in mind and code subsequent interviews (or data from my other sources) with the emerging theory in mind. At the end of this process I produced an extensive list of initial codes which I then had to group into concepts. These *concepts* were groups of initial *codes* that went together because they share similar themes or address similar ideas. In Table 3.6, I present a sample of this categorisation into initial codes and concepts.

Grounded theory coding requires the researcher to stop and ask analytical questions of the data collected (Charmaz, 2006). My analytical journey therefore started during data collection. I would write analytical memos about the data being collected. Alongside the coding procedure, I wrote analytic memos in order to build theoretical ideas around the identified codes (Charmaz, 2006; Dey, 1999; Glaser, 1978, 1992; Strauss, 1987; Strauss and Corbin, 1990; Urquhart, 2001) because “memos are the theorising write-up of ideas about codes and their relationships as they strike the analyst while coding” (Glaser, 1978: 83). The combined coding and analysis procedure is conducive “to generate theory more systematically” (Glaser and Strauss, 1967: 97). These memos were sometimes analytical questions which helped to direct subsequent data collection towards the analytical issues I am defining.

During the analysis of an interview for example, I would note words and phrases that the interviewee was using that highlighted an issue that was of importance or interest to my research problem. This was noted and described in a short phrase. If this issue was mentioned again in the same or similar words, it was again noted (Allen, 2003). By the end of each period of field work I had long lists of initial codes and concepts that I later streamlined after the data collection was complete and used for further analysis.

TABLE 3.6: Sample of Initial Codes and Concepts

Initial Codes (Key Points)	Concepts
<ul style="list-style-type: none"> • Information is exchanged at beer parlour, market square • Town crier disseminates community information like road repairs, sanitation, meetings and new laws to community members. • Information received through heads of family • Community heads transmits information they consider useful to community members. • People with mobile phones exchange more information than others • Information is transferred through friends, relatives and family and local gossip • Commercial motorcycle drivers are key information carriers • Local and state information are received from Radio and TV • Radio and town criers are the most constant means of receiving information. • Community events like burials, coronations are broadcast on radio 	<p>Information Sharing Mechanisms</p>
<ul style="list-style-type: none"> • Mobile phones is used for social interactions • Mobile phones is used for exchanging community news and information • Radio for information, local, state and national news • Internet for is used learning, educational, global developments, registering for examinations • Phones are used for security alert • Radio is a source for job opportunities 	<p>Individual exploitation of ICT</p>
<ul style="list-style-type: none"> • Societal norms passed down from previous generations and adjudicated by village head • All women are guided by the laws of ‘Ipemini’ (Women’s Council); Mature men are bonded by their membership to ‘Ekpe’ Society. A fraternity.; Young men are members of ‘Mboho Akparawa’ • Fines are paid for breaking community laws • Clear responsibilities in the community for men and women. • Women do the farming and are involved in community sanitation • Men clear bushes, repair roads, and do sanitation • Indigenous knowledge and community values are passed onto the next generation by storytelling to children, and constantly reinforcing these values as they grow up. • Village heads regulate costs of farm produce • Everybody knows each other, with lots of face-to-face interactions • Community events are well attended by community members • Community mobilization done by youths and leaders 	<p>Communal Life and Traditions.</p>
<ul style="list-style-type: none"> • Close connections to family, strong family ties • Relate regularly with community leaders • Civil servants have connections and interactions with work colleagues in government offices • Community information is exchanged at community events, • Most people have relatives living outside the community, in the state capital • Young men have the widest network of connections within the community and they are key information carriers 	<p>Social networks and connections</p>

3.5.1.2 Analytical Categories

By comparing each concept in turn with the other concepts chosen, further commonalities could be found which formed even broader categories, enabling the coding to move to a higher level of abstraction. Glaser and Strauss (1967: 105-115) described this method of continually comparing concepts with each other as their “constant comparative method”. In effect, a category is a theme or variable which makes sense of what the informant has said and what I had observed. I interpreted these in the light of the situation under study and the emerging theory. By applying the constant comparison technique to each concept in turn, common themes were found among categories.

I also used axial coding to relate codes (categories and concepts) to each other, via a combination of inductive and deductive thinking. In axial coding, categories are related to their sub-categories, and the relationships tested against data (Strauss and Corbin, 1998). It facilitated building connections within categories - that is, between categories and concepts - and thus served to deepen the theoretical framework underpinning the analysis. To simplify this process, rather than look for any and all kind of relations, grounded theorists like Strauss and Corbin (1998) emphasize causal relationships to fit things into a basic frame of generic relationships. The frame consists of the elements summarised in Table 3.7.

TABLE 3.7: Frame for Axial Coding

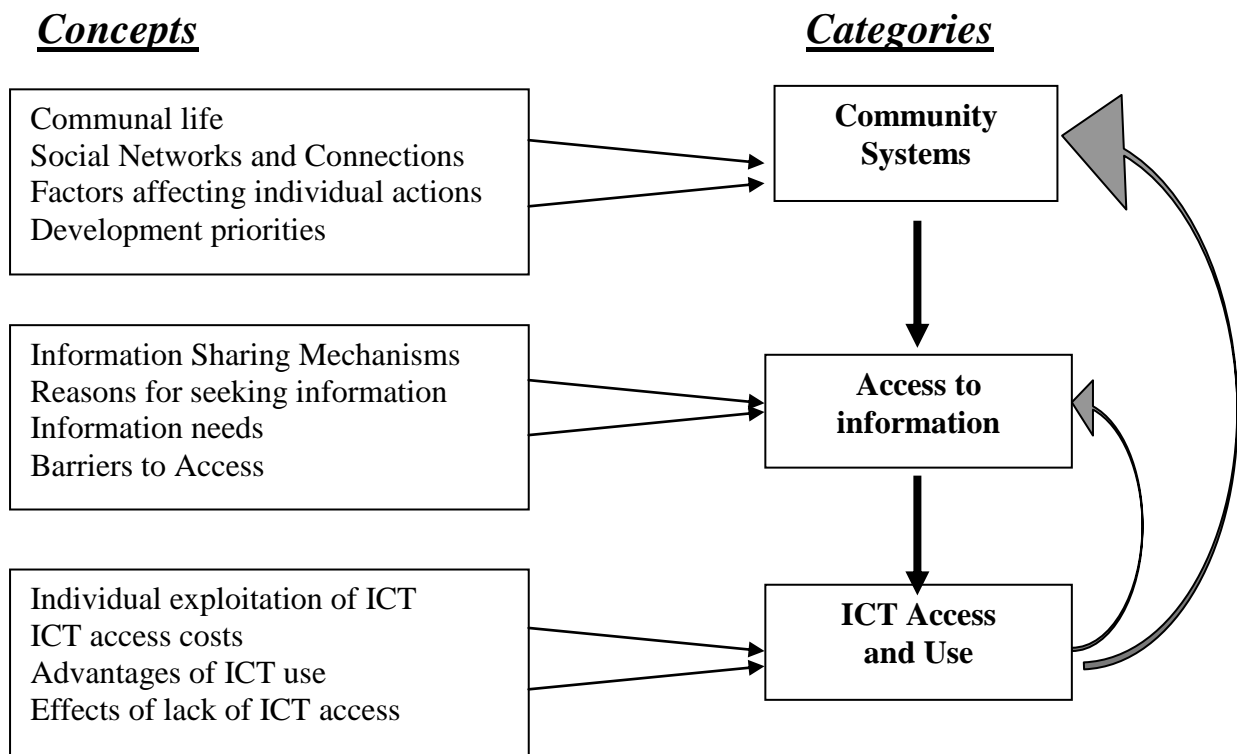
Element	Description
Phenomenon	This is the overarching concept that holds the bits together. It can be the outcome of interest, or research problem
Causal conditions	These are the events or variables that lead to the occurrence or development of the phenomenon. It is a set of causes and their properties.
Context	Hard to distinguish from the causal conditions. A set of conditions influencing the action. <i>Moderating</i> variables
Intervening conditions	Similar to context. <i>Mediating</i> variables. But it is not clear that grounded theorists cleanly distinguish between these two.
Action strategies	Actions that agents perform in response to the research problem and intervening conditions.
Consequences	Consequences of the action, intended and unintended.

Source: Adapted from Strauss and Corbin (1998).

In relating the concepts that emerged and trying to categorize them to deepen the theoretical framework underpinning the analysis, I could not clearly segment the concepts into these six frames as proposed by Strauss and Corbin (1998), because some of the concepts could not be so distinctly segmented. I did however find it useful to relate concepts by segmenting the concepts into four frames: the phenomenon; the causal conditions; the contextual and intervening conditions; and the action and consequence.

Figure 3.6 presents an example of how I related concepts. The phenomenon was *Community communicative ecology*, the causal conditions for this were the concepts I grouped under the *Community systems* category, the contextual and intervening conditions were the concepts that I grouped into the *Access to information* category, and the action and consequence were the concepts that I grouped under *ICT access and use* category.

FIGURE 3.6: Sample of Axial Coding to Relate Analytical Categories



Another issue I needed to address during the coding stage was to know when to stop the coding and data collection process. Glaser and Strauss (1967) propose that data collection should continue until the categories are saturated. “Saturation means that no additional data are being found whereby the sociologist can develop the properties of the category” (Glaser and Strauss, 1967: 61). This raised some questions because I do not

agree with Glaser and Strauss that saturation can ever be complete when collecting data even from a small segment of the population. Dey (1999) agrees with this notion and argues that the term saturation is too strict. Instead, he suggests that “Saturation has connotations of completion and seems to imply that the process of generating categories (and their properties and relations) has been exhaustive rather than merely ‘good enough’” (Dey, 1999:116-117). I take this line and would prefer to say that I stopped collecting data when I felt I had gathered sufficient information on the analytical categories identified. My research was designed in phases to investigate specific aspects of the research problem which are parts that contribute to my overall research phenomenon. I considered that I had collected sufficient data when the core concepts had been sufficiently explored to contribute to the larger research goal. The theoretical sufficiency and my prior knowledge of the people as a citizen of the Niger Delta who has lived there for four years prior to the research informed this decision.

3.6 LIMITATIONS

One of the major limitations with this methodology is the problem of sampling. In view of the different backgrounds of the participants and their differing priorities and experiences, the identification of categories of participants to be included in the sample population was a major issue. Selection of participants was based on the location, availability and the willingness of participants to participate in the research process. This meant that the sample population cannot be a complete representation of the Niger Delta (Walsham, 1993; Yin, 2003). However, this research was intended to focus on individual experiences of community, and therefore gave primacy to these qualitative aspects rather than explicitly seeking to explain processes across the Delta as a whole. Nevertheless, by deliberately choosing four different communities in which to work, the results are indeed more generalizable than they would have been if I had concentrated in just one area. Focus groups were difficult to assemble and local-level power relations and inequalities influence which views are expressed as well as who participates in the focus groups. Other methodological challenges included adapting methods to the needs of the participants, the context and to the skills, resources and structures of the project.

The second major limitation was the time factor. Doing research in three phases takes a great deal of time; it takes time to build a relationship with the target audience and

prepare them to accept such an in-depth and scrutinizing approach and it takes time to gather data and carry out many levels of interpretive analysis. The overall process of this methodology can be overwhelming for the researcher. Ultimately I spoke to over 250 people during the course of this research.

Another issue that may be considered by some as a limitation is the notion of going into the field without fixed frameworks and prepared hypothesis. With a flexible and responsive approach such as this, the researcher may not know where the data will lead. This makes the initial choice of literature difficult because at the start of a study, the researcher may not know what literature will later become relevant. My methodology required me to reengage with the literature as new themes emerged, and this in turn affects the structure of the thesis. Second, it is not just the researcher's interpretation – understanding – that emerges slowly from the situation but also the research methodology because the research content and research process both develop as the research progresses. This may not give the researcher the control they might need over the research process; they can only offer participants guidelines on what they will be observing and collecting, none of which can be predicted beforehand. This can be disconcerting for some researchers in institutional contexts that like to have some idea of the outcome of the research before they expose themselves and their institution to the research process.

There are also many ethical research issues associated with this methodology because of the in-depth and holistic nature of the discoveries which emerged. I had to be sensitive to these issues and tackle it thoughtfully and self-reflectively. I discuss this in more detail in Section 3.7.

Finally, documenting the outcomes of this kind of research can be challenging. This problem is compounded by the cyclical nature of the research process making the delineation of the results into the traditional 'discussions and findings' format a very difficult task. With a hybrid ethnographic research such as this, the approach and the resultant nature of the knowledge is more holistic so that each chapter is really a microcosm of the total knowledge, making the knowledge generated recursive rather than cumulative, a distinction which is obscure and often not appreciated by those who operate through more traditional approaches. When a critical hermeneutic approach is adopted, it

can be rigorously scrutinized to allow for a thorough analysis of the processes of information and communication practices, thus supplementing the more traditional approaches which tend to concentrate on content rather than process. The use of ethnographic research methods means that opportunities which arise from contextual situations can be built on, instead of avoided. As Zuboff (1988) argues, a “window of opportunity” can be found to explore particular issues. However, despite the difficult and time-consuming nature of the research, I believe that these limitations are far outweighed by the substantive gains made and can be a very productive research method considering the substance of the research findings.

3.7 ETHICAL CONSIDERATIONS

This research is based on a constructivist paradigm where I interacted constantly with the participants to uncover realities as they are constructed by participants, to represent this understanding (Glesne 1999), and to reach a joint construction of reality that emerges as a result of a hermeneutic dialectic processes (Postholm, 2003). Thus the thesis represents a joint or collaborative construction (Guba and Lincoln 1989). This approach and the intrusive nature of the research and the close relationship I had with participants meant that there were important ethical issues associated with the research process. England (1994: 85) warns us that “. . . fieldwork might actually expose the researched to greater risk and might be more intrusive and potentially more exploitative than more traditional methods”, she further emphasises that “. . . exploitation and possibly betrayal are endemic to fieldwork”. This research was designed, reviewed and undertaken to ensure integrity and to protect my research participants from any harm as a consequence of participating in the research. The research process started with an initial assessment of the effects of my research methods and findings on my research subjects. Based on this assessment, I realised that sensitivity to the gender inequality in these contexts and respect for traditions and local leadership were important considerations in the way I approached my research participants and in designing the methodology.

The first ethical concern I had to deal with was the requirement of informed consent (Hammerley and Atkinson, 2007; Patton, 2002; Punch, 1994; Angrosino and Mays de Pérez, 2000). The principles of confidentiality, anonymity and informed consent are regarded by most researchers as core elements of ethical practice (Walsham, 2006;

Hammersley and Atkinson, 2007; Kitchener, 2000) alongside related concerns such as the avoidance of deception, harm and exploitation (Glesne, 1999). Informed consent means that research participants are informed about the research and the implications and know what they are being invited to take part in before the research starts, and that they accept this invitation (Fetterman, 1998; Fontana and Frey, 1998; 2000; Stake 1995). The socio-cultural context of my research required that I receive informed consent from the community leadership before proceeding to do research in their communities. The leadership gave me a blanket consent and said I would receive the support of community members and in a couple of sites they were instructed to participate. Although I received informal individual consent usually just before I started an interview, I was not always sure whether consent was given because the leaders ordered it and if they totally understood the purpose and implications of the research. I found that participants frequently disregarded my explanations of what their participation would entail because they simply wanted to get on with it and trusted that I would do them no harm. I did however assure participants of confidentiality and anonymity by leaving out their names, not recording interviews, and not quoting them personally in discussions with other community members to protect them from any back lash.

A second issue around confidentiality which I had to deal with, concerned what should count as data. Conducting research as an insider means that I often had knowledge about individuals and issues outside the formal data collection process. It was difficult to separate the knowledge I gained from viewing the data generated or from talking informally about the research and findings with other people. As a researcher, this has ethical implications because I had to be mindful of, and to distinguish between, what was public knowledge in terms of participants' expressed views in their presentations; what was data generated in the study for public consumption but which require anonymity; and what was private knowledge that I had gained from my personal knowledge of an individual or the circumstances that I did not have the individual's consent to use. Rubin and Rubin (1995) state that it is the researchers' duty to distinguish between private and confidential information and selectively to use information that can answer the research questions. Thus it was my responsibility to protect the participants' privacy by retaining information that could put the participants at risk and keeping certain information out of the thesis without compromising the analytical import of my findings.

Ethical standards also require that researchers should not put participants in a situation where they might be at risk of harm as a result of their participation (Glesne 1999). Although it is common practice in social research to conceal the identity of research participants through pseudonyms, or changing biographical details in order that individuals cannot be recognised (Corden and Sainsbury, 2004), there is however considerable debate about the extent to which it is appropriate to amend data in the interests of anonymity. It has been noted that the more one strives for anonymity and the further it moves from its original context, the less useful are the data (Thomson and Bzdel, 2005). I only left out names and retained the biographical information and this was enough for my research participants.

Another major consideration in the risk of harm was gender sensitivity. In some indigenous communities in the Niger Delta, women are not allowed to be spokespersons for a community, and thus they cannot be approached before official consent from leadership is received. Women's freedom in these communities is also constrained and they usually do not voice their opinions publicly at community meetings. "For people who do not usually have the opportunity to voice their concerns, research can be very positive and enabling in itself because it can encourage such people to articulate their needs" (Pratt and Loizos, 1992: 17). Keesing (1985) notes that it is possible to create contexts in which either socially repressed, introverted or less accessible women are willing to open up their private worlds. I found that I could create this enabling context by meeting with women separately from men and assuring them that whatever was discussed would be handled with sensitivity. My position as an insider meant I was informed of and sensitive to the local socio-cultural contexts and the possibility of harm to my women participants if community leadership found that they had exposed injustices in the community. I was conscious of the fact that because women are not usually consulted in community development issues, community leaders and men might have been concerned that I may reveal issues relating to corruption, mismanagement of community funds, highlighting inequalities and women's disadvantage, that can inherently challenge or threaten the status quo. These considerations were the basis for having separate focus groups for women and for men and also for extra confidentiality and caution with the information I received from women. In addition, my position as a woman helped me to gain insights into local gender relations and male perceptions of females, especially through participant observation.

Oakley (1981) argues that shared gender encourages respondents to respond freely and openly to a female researcher. In hindsight, it appears that the women responded a lot more openly to me than I had thought they would because they saw me as a fellow woman who would understand the needs of other women.

The thing that struck me the most during my interview sessions with participants was their interest in wanting to know what I would do with the information I was collecting from them and how I would use the outputs of my research to benefit them as individuals and their communities. There was an instance in a women's focus group in Ogan Amah where the women asked me to share these findings with the community leaders. I tried my best to make them understand that my research was strictly educational but I promised them that I would write a special report which I would send to relevant authorities like the Niger Delta Development Commission (NDDC) and community development associations in the hope that they would act upon it. Research participants were clearly interested in changing their disadvantaged position and they hoped that my research would, in some way, help to achieve this.

3.8 CONCLUSION

This chapter has summarised the methodological foundations and processes that directed the course of action for my research. The methodology was designed to be flexible but also inductive, in that it began with preliminary investigations which informed the suitability of the research methods to answer specific research questions. The multi-method approach to data collection and analysis outlined in this chapter worked well to create a rich picture of both local and personal narratives about communities in the Niger Delta and about how ICTs are currently being utilised in the people's everyday lives. The multiple methods also supported data triangulation and added rigour to the research process. The interpretive approach adopted helped me to understand the socio-cultural processes involved in adapting and using ICTs to meet information and communication needs. From this perspective I could focus on various formal and informal practices that surround, and are constituted in, the flow of information and understand the social world of the participants and the role that communication plays in their everyday tasks as they interacted with each other.

Chapter 4: Background and Context: The Nigerian ICT Sector and the Niger Delta Region of Nigeria

4.1 INTRODUCTION

This chapter establishes the context of my research by providing background information about Nigeria and the Niger Delta region, focusing especially on the ICT sector. I start by giving a brief introduction to Nigeria, and then examine the development of the ICT sector highlighting existing regulatory and policy issues that govern the ICT sector. Some basic telecommunications indicators of relevance to my field research are provided. I then present an overview of the Niger Delta focusing on the developmental context and community related challenges, concluding with a profile of my research locations.

4.2 NIGERIA: CONTEXT

Nigeria has a population of over 151.2 million (World Bank, 2010), making it the most populous nation in Africa and the eight largest in the world. In its 924,000 square kilometres, Nigeria has more than 250 ethnic groups, speaking 478 first languages from 36 states (Figure 4.1). English is the official language spoken by all. Nigeria is classed as a lower middle income country by the World Bank (World Bank, 2010).

FIGURE 4.1: The Nigerian Map



Source: Author

Nigeria is the largest oil producer in Africa and the 7th largest oil exporter in the world, producing 2.2 million barrels per day (CIA, 2009), from the Niger Delta region. The discovery of oil in 1956 transformed Nigeria's political economy, and since the 1970s oil has provided approximately 90 percent of foreign-exchange earnings, and 80 percent of federal revenue (CIA, 2009). Nigeria also has huge reserves of natural gas yet to be fully exploited and much is wasted through environmentally polluting flaring. The windfall income from oil has proved in many ways to be a curse rather than a blessing. Instead of turning Nigeria into one of the most prosperous states on the African continent, its natural resources have enriched a small minority, while the vast majority have become increasingly impoverished. With a per capita gross national product of only US\$260 a year, Nigeria remains one of the poorest countries in the world (UNDP, 2006).

4.3 NIGERIA'S ICT SECTOR: AN OVERVIEW

Nigeria's media scene is one of the most vibrant in Africa and the country is currently experiencing an unprecedented boom in the uptake of ICT services. In this section I present a brief overview of the ICT Sector, beginning with the regulatory framework and then I discuss current applications in mobile technologies, broadband and internet services and broadcast media.

4.3.1 ICT Industry, Policy and Regulatory Frameworks

Nigeria elected a democratic government in 1999 after an extended period of military dictatorship. With the globally publicised digital divide debate, the new administration set out to address this by developing plans and policy for ICT in the country and took the following steps:

1. Approved policies for the major sectors of the industry: National Telecommunications Policy, National Information Technology Policy, National Space Policy and National Biotechnology Policy in 2001.
2. Liberalised the sector in 2000
3. Accorded priority status to ICT (Ajayi, 2003)

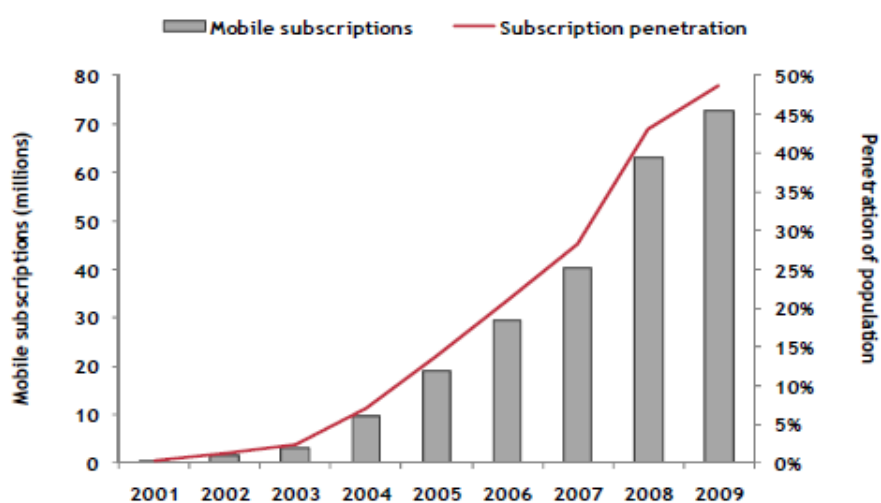
The liberalisation and deregulation process which began in 2000 transformed the Nigerian telecom sector. Licenses were given to GSM (Global System for Mobile Communication) operators and policies on telecommunication, information, space and bio-

technologies were approved. The key strategies outlined in the National Policy for IT include establishing a National Information Technology Development Fund (NITDEF); establishing a National Information Technology Development Agency (NITDA); creating IT parks with the infrastructure, services, training and management necessary to harness the power of ICTs; and restructuring relations between government, business and the general public through the use of IT in order to enhance the efficiency and effectiveness of governance, commerce and the provision of services (Federal Republic of Nigeria, 2001; Yusuf, 2005). NITDA was established in 2001 to ensure the implementation of the policy and to coordinate and regulate the development of the Information Technology sector. It has since embarked on projects that are making the dream of using ICT for development real in Nigeria. This includes: the Public Service Network (PSNet), Mobile Internet Unit (MIU) and Human Capacity Development. NITDA has been able to start the process of integrating IT into the public service through a massive enlightenment campaign that was targeted at the top officials of the service (Ajayi, 2005). In June 2008 NITDA in collaboration with the United Nations Economic Commission for Africa (UNECA) coordinated the development of the national ICT4D plan, aimed at deploying ICT to achieve Nigeria's millennial development goals, NEPAD development initiatives and the World Summit on Information Society's plan of action.

4.3.2 Mobile Telephony

The GSM revolution began in August 2001 and changed the face of Information and Communications Technology in Nigeria. Since the GSM launch, mobile telephony has rapidly become the most popular method of voice communication in Nigeria. Growth has been so rapid that Nigeria has been described as one of the fastest growing GSM markets in the world (Wills and Daniels, 2003; Okafor, 2007; Ndukwe 2004; Aihe, 2005; NCC, 2010). The impact is felt in nearly all sectors. Mobile subscriptions have risen from 200,000 in 2002 to 72.6m by the end of 2009 (Figure 4.2) resulting in a penetration rate of 50% of the population (NCC, 2010).




FIGURE 4.2: Growth in Mobile Phone Subscription, Nigeria 2001 -2009



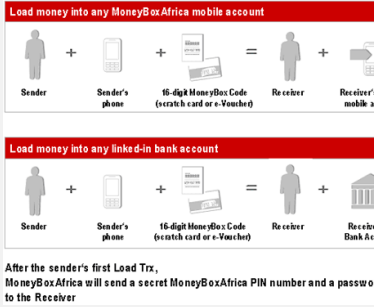
Source: NCC (2010)

Additional areas where mobile services are being utilised include rural connectivity projects, education, health, finance, agriculture, transport and entertainment applications (Table 4.1).

TABLE 4.1: Examples of Mobile Services Sector Applications in Nigeria

<p>RURAL CONNECTIVITY</p>		<p>Millennium Village Pampaida project extends telephony services to hard to reach rural areas. And the Rural Telephony Program trains and supports local villagers by providing mobile based pay-phone services.</p>
<p>EDUCATION</p>		<p>Ladybird Mobile Reading Program supports classroom activities through mobile based educational exercises. The program helps the child master a foundation of the most important words of the English language.</p>
<p>HEALTH</p>		<p>My Question, My Answer is an SMS and phone operator based educational and counselling program that allows young people to request information on reproductive health and HIV/AIDS via SMS or by phoning a hotline.</p>

FINANCE



Moneybox Africa is a mobile commerce application that virtually stores and moves money, makes payments and enables other mobile based financial transactions. Customers can check their accounts on the streets, remotely save money into their accounts, top up their phones, pay utility bills and tithes, buy insurance premium, send money to friends and relatives, get access to credit and make investments with their mobile phones.

AGRICULTURE



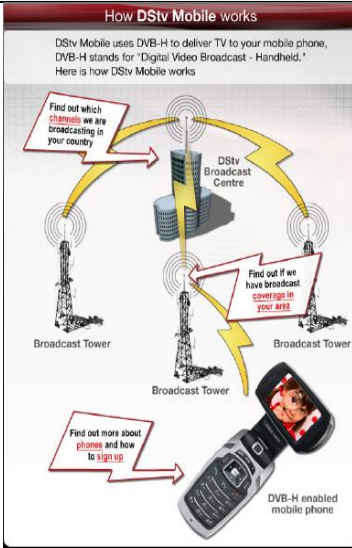
Cassava Growers Project disseminates market information in conjunction with information points and trade agents via SMS to farmers.

TRANSPORT



Hot FM Abuja Traffic Monitoring program collects traffic information sent by listeners through SMS and mobile calls and broadcast this on air to their listening audience.

ENTERTAINMENT



DSTV and MTN Mobile TV Service broadcasts content over a mobile network. The DStv Mobile service is based on DVB-H technology, which broadcasts live TV to eligible handsets. The TV signal originates from the DStv broadcast centre and is relayed by broadcast towers to mobile phones.

Source: Adapted in part from Pyramid Research, NCC (2010)

4.3.3 Internet and Broadband Services

The phenomenal growth in mobile telephony is also witnessed in internet use. The ITU (2009) puts internet use in Nigeria as at December 2009 at 23,982,200, 16.1% of the population. More recent statistics from Internet World Stats (2010) shows Nigeria having a huge increase at 43,982,200 users, making it No. 1 in Africa, coming well ahead of internet users in Egypt (17,060,000) and South Africa (5,300,000). The increase is largely due to mobile internet usage which has soared in Nigeria in the past three years. According to Ferguson (2008), the increase in internet access via mobile phones in Nigeria has leaped by 25 percent in three years. Ferguson (2008) states that 7.3 million Nigerians accessed the internet using mobile phones during the second and third quarters of 2008: “people often need instant access to weather, or sport news and mobile phones can obviously satisfy that need”. He suggests that the majority of those accessing the internet using mobile phones are young people. Ferguson (2008) further pointed out that other popular sites being visited by mobile phone users include BBC news, weather and SKY sports. He also noted that Google was the most popular site young people aged between 15-24 and several millions of adults in Nigeria, visited through both mobile phones and PCs. But it is the social networking site, Facebook that has captured the majority of browsers in Nigeria, and keeps them glued to their PCs or phones.

Broadband access is paving the way for new solutions, which have previously been expensive and inefficient in Nigeria. Broadband density is particularly low as there is a great disparity between broadband and voice telephony penetration. Nigeria’s telecom regulator NCC has started implementing an initiative aimed at closing the broadband telecom gaps in underserved communities. NCC’s State Accelerated Broadband Initiative (SABI) is a Public Private Partnership arrangement that aimed to deploy broadband services to the states by the end of 2009. A number of undersea fibre optic cable projects (Glo one, Main one) that will link Nigeria with expanded international bandwidth capacity are currently in various stages of development. Main One is a 1,920 Gbps, 7000 kilometres long, submarine fibre optic cable system linking West Africa to Europe and has been completed and commissioned. With landing stations in Nigeria and Ghana and branching units in Morocco, Canary Islands, Senegal and Ivory Coast, the cable will deliver unprecedented broadband capacity to West Africa, more than ten times what is currently available (Balancing Act, 2010).

These initiatives will provide cheaper and higher quality communications links for Nigerian citizens. Most of these developments, though, currently only serve the three major cities in Nigeria: Abuja, Lagos and Port Harcourt.

4.3.4 Broadcast Media: Television and Radio

In May 1977 when the government owned Nigerian Television Authority (NTA) was established, and it enjoyed exclusive rights to television broadcasting until the provision in the 1979 constitution led to the establishment of the National Broadcasting Commission (NBC) in 1992, this resulted in the issuance of radio, television and cable broadcast licenses to private operators for the first time in the history of broadcasting in Nigeria on 10th June, 1993. Now state radio and TV have near-national coverage and operate at federal, regional and state levels. The federal government owns and runs 56 television stations and there are 32 state owned television stations (NBC). Apart from the government run stations, 13 independent television stations are currently broadcasting in Nigeria.

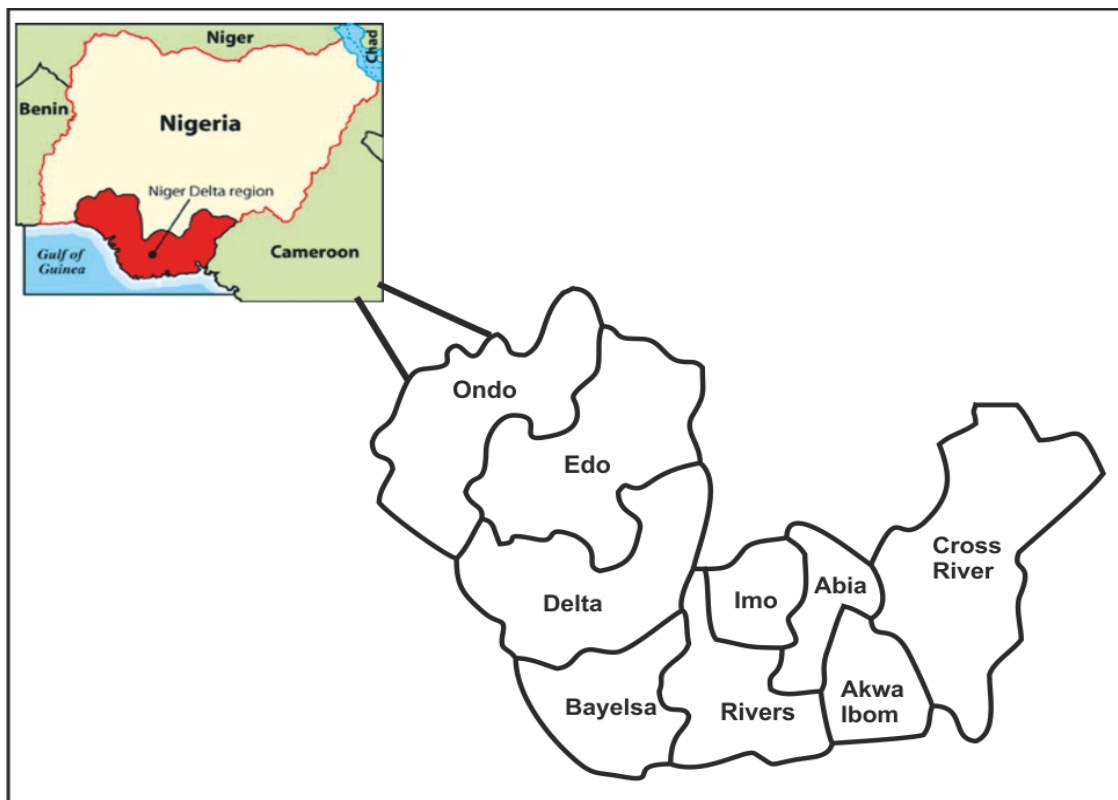
There are more than 100 radio stations now operating in Nigeria. The only challenge is that the commercial radio stations are concentrated in the urban areas with the exception of the FRCN 32 FM Project, which was established as a grass-root/ community radio. All 36 states run their own radio stations and there are 19 licensed private radio stations in operation in Nigeria. International radio stations such as the BBC and VOA are quite popular also, but rebroadcasts of foreign radio programs are banned.

A large number of urban residents watch cable television, with two cable television networks broadcasting in the country, one a South African based network (DSTV) and the other a private Nigerian cable network (HITV). Legislation requires a minimum of 60% local content broadcast for open television and 80% local content broadcast for radio. The cable/satellite retransmission stations are mandated to reflect a minimum of 20% local content in their programming (NBC, 2009). Although the country enjoys a wide coverage of television services, regular viewing is concentrated in the urban areas of the countries.

4.4 THE NIGER DELTA REGION

The Niger Delta is located in the south-east of Nigeria, and includes all of the oil producing states in the Nigerian Federation (Figure 4.3). The land area spans 75,000 square kilometres (UNDP, 2006). The Niger Delta consists of nine states (Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers) and 185 local government areas (LGA). The Niger Delta is Africa's largest delta and the second largest delta in the world (Afolabi, 1998; Nyananyo, 1999; Anderson and Peek, 2002). Watts *et al.* (2004) refer to the region as the lifeblood to the Nigerian economy because it is the heart of the country's oil production. As a result of the huge oil deposits in the region the Niger Delta has been associated with a commodity of unprecedented economic and geo-strategic significance and value (Watts *et al.*, 2004; 2000; Lewis 1996; Khan 1994).

FIGURE 4.3: Map of the Niger Delta Region



Source: Author

4.4.1 Geography

The Niger Delta region is mostly a flat, low-lying swampy basin, criss-crossed by a dense network of meandering rivers and creeks (see Figure 4.4). There are four broad ecological zones in the region defined by both relief and hydrological characteristics. These are, from the coast inland, the coastal sandy barrier ridge zone, the mangrove swamp zone, the freshwater swamp zone and the lowland rainforest zone (UNDP, 2006). The Niger Delta is also among the world's major wetlands, with one of the largest mangrove ecosystems alongside large deposits of oil.

FIGURE 4.4: Mangrove Swamps in Bayelsa



Source: Israel Aloja of Environmental Rights Action/Friends of the Earth Nigeria

4.4.2 People and Settlements

According to the 2006 national census, the Niger Delta had a population of 31,224,577 people, accounting for more than 22 per cent of Nigeria's total population. The population density is also among the highest in the world with 265 people per kilometre-squared (UNDP, 2006). The Niger Delta region is ethno-culturally complex. The people are extremely heterogeneous with respect to culture and ethnicity (Watts *et al.*, 2004). Watts (2004b) notes that the region has considerable, and to some extent bewildering, ethno-

linguistic complexity. There are more than 40 ethnic groups that speak about 250 different dialects. The five major linguistic and cultural groups - Ijaw, Ibibio, Igbo, Urhobo, Yoruba and Itsekiri - each have numerous sub-groups. The heritage of the people is reflected in modes of dress, marriage, traditional culture and festivals.

People live in scattered settlements all over the region, with some settlements located in swamps (see Figure 4.5). Small settlements with less than 1,000 people (see Table 4.2) dominate, followed by settlements in the range of 1,000 to 5,000 people. The Niger Delta Development Commission (NDDC) Regional Master Plan determined that there are 13,329 settlements in the region, and 94 per cent of these have populations of less than 5,000. Only 98 settlements, or one percent, can be regarded as urban centres based on population size (NDDC, 2004).

FIGURE 4.5: Swamp Settlement in Southern Ijaw LGA



Source: Author

TABLE 4.2: Size Distribution of Settlements and Population in Study Sites and the Niger Delta.

States	Less than 1,000 people	1,000-5,000 people	5,000-20,000 people	20,000 people and above	Total population
Akwa Ibom	1,236	1,098	46	7	3,920,208
Bayelsa	290	317	85	4	1,703,358
Rivers	428	598	213	17	5,185,400
The Niger Delta	7,686	4,781	764	98	31,224, 577

Source: Adapted from UNDP (2006) and Nigerian Population Commission (2006)

FIGURE 4.6: Mud House in Mbiaya Uruan



Source: Author

FIGURE 4.7: Village Compound in Mbiaya Uruan



Source: Author

The vast majority of settlements in the Niger Delta are dispersed villages. The typical community consists of compounds, which are closely spaced groups of small buildings that house 50 to 500 people, most of whom are farmers or fishermen. There are also a few larger settlements, which are usually separated from other clusters of rural residences by their outer, farmlands, oil palm or rubber plantation, bush, or stretches of secondary forest. These towns are usually located along roads, which radiate from a 'core' where churches, schools, market places (see Figure 4.8 and 4.10) and other functions are situated. Most rural settlements lack essential amenities, such as medical facilities, good water, power supply and good transportation systems and some even still live in mud huts as depicted in Figure 4.6 and 4.7.

4.4.3 Economy

Fishing and agriculture are the two major traditional occupations in the Niger Delta. Forestry was introduced during the colonial era, as the third major economic activity in the region. Today, agriculture, fishing and forestry still account for about 44 per cent of

employment (UNDP, 2006). All three economic activities have declined since the increased operations of the oil industry. The concentration of informal sector activities in the urban sector plays a growing role in the economy of the Niger Delta region. According to UNDP (2006) trading (17.4 per cent), services (9.8 per cent) and miscellaneous activities (11.1 per cent) are the most important areas of employment, after agriculture, fishing and forestry overall. However, a strong informal sector economic base is also growing in rural areas (UNDP, 2006) with markets selling local farm produce and aquatic livestock (see Figure 4.8 - 4.10). There are many international oil companies operating in the region, including Shell, Chevron, Mobil, Elf, Agip and Texaco (Watts *et al.*, 2004; UNDP 2006). Oil production and oil related industrial expansion by these multinationals have transformed the local economy of the region. Some individuals have benefited from oil production, through employment of local people, land leases and contractual services.

FIGURE 4.8: Market in Ididep



Source: Author

FIGURE 4.9: Riverside in Yenagoa



Source: Author

FIGURE 4.10 Commercial activities, Creek Road Market in Port Harcourt



Source: Author

4.5 COMMUNITY RELATED CHALLENGES IN THE NIGER DELTA

Given the focus of this thesis on sustainable communities, this section provides a brief overview of the main challenges that communities face in the Niger Delta. Table 4.3 lists the most important of these, as identified by my research participants.

TABLE 4.3: The main challenges facing communities in the Niger Delta

<ul style="list-style-type: none">• Widespread poverty with over 70% of the population on or below the poverty line• Poor sanitation and waste disposal infrastructure, contributing to illness• Poor roads and transportation systems• Poor telecommunications facilities• Civil unrest and insecurity• Inconsistent power supplies in many parts of the region, total absence in some areas• In some areas such as Bayelsa, a shortage of land available for development• Inadequate and poor quality education and health facilities and services• Inadequate capacity and corruption in governance• Severe environmental degradation and adverse community impact
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Here, I focus on four that were constantly reiterated during the course of my research: environmental degradation; mismanagement by local government; poverty; and conflicts.

4.5.1 Environmental Degradation

Environmental degradation resulting from oil and gas production in the Niger Delta has greatly threatened the sustained development of the region (Opukri and Ibaba, 2008). The oil industry occupies less than five per cent of the Delta's land, but the entire region feels the impacts of its operations. Fall outs from oil exploration include oils spills, spill fires, canalization, pollution, and gas leaks (see Figures 4.11 – 4.14). The rise in oil production has increased the incidence of oil spills in the region. There were 6,817 oil spills between 1976 and 2001, with a loss of approximately three million barrels of oil (UNDP, 2006). Some of these spills have been accidental and others have been as a result of the local population tampering with pipelines to protest against the activities of oil companies in their communities.

FIGURE 4.11: Oil Spill in Bayelsa



Source: Israel Aloja, Environmental Rights Action (ERA)

FIGURE 4.12: Gas Flaring in Rivers state



Source: Israel Aloja, Environmental Rights Action (ERA)

FIGURE 4.13: Ibada-Elume Oil spill.



Source: Israel Aloja, Environmental Rights Action (ERA)

FIGURE 4.14: Ibada-Elume spill-fire explosion



Source: Israel Aloja, Environmental Rights Action (ERA)

FIGURE 4.15: Elf's Pipeline in Egi Community, Rivers State



Source: Israel Aloja, Environmental Rights Action (ERA)

All across the Niger Delta exposed oil pipelines like these criss-cross communities (see Figure 4.15). Decisions on the laying of these pipelines were taken without consulting these communities. Now many of the pipelines are old and have become fire-traps. Poorer people are more vulnerable to changes in the environment since they are the ones who bear the brunt of natural hazards, biodiversity loss and the depletion of forests, pollution (air, water and soil), and the negative impacts of industrial activities. The World Bank (2005) estimated that Nigeria flares about 75 per cent of the gas it produces due to the lack of a local market and infrastructure. This is environmentally harmful as well as economically wasteful. Also some of the canals that are constructed by oil companies in the Niger Delta have caused saltwater to flow into freshwater zones, destroying freshwater ecological systems (Ikelegbe, 2001; UNDP, 2006; HRW, 1999).

Environmental factors are implicated in about 20 per cent of the cases of disease in developing countries (UNDP, 2006). In Nigeria, water-related diseases constitute about 80 per cent of the total disease burden (NDHS, 2003). Many of these illnesses are linked to environmental conditions that cause water contamination. In the Niger Delta region, nearly 60 per cent of the population depends on the natural environment - living and non-living for their livelihoods (UNDP, 2006). Environmental degradation issues are of concern to communities in the Niger-Delta as they are a major cause of productivity losses (Opukri and Ibaba, 2008; Onosode, 2003). Farmlands in the Niger Delta have been made infertile

and unproductive due to frequent oil spills that are never cleaned up properly (Aluyor, 1998).

In addition to oil and gas activities, flooding and erosion are also impacting the environment of communities in the Delta (World Bank, 2005). In the mangrove swamp forest areas, the tidal movements result in floods exacerbated by rising sea levels, coastal erosion and land subsidence (Olawoye *et al.*, 2003; NDES 2000). This has significant impacts on the pattern of human life and economic activities, as roads and farmlands are partially or totally submerged, food and cash crops are destroyed, and fertile farmlands are damaged channels or by water flowing over the levees. The most important aspects of this environmental degradation are the social impacts that they have on communities. People in the region believe strongly that their environmental situation contributes to their social and economic deprivation, and this further complicates the sustainable development of the region. Some social impacts include occupational changes, health and disease, the loss of fishing grounds, the disappearance of livelihoods and land shortages. These changes have in turn threatened cultures, traditional systems and values, and the authority structure in the region.

4.5.2 Poor Management by Local Governments

Nigeria's local government councils (LGC) play a very important role in the provision of basic social and economic services, as some of the government's key responsibilities are largely devolved to their control. The federal government is mainly responsible for articulating overarching policies and with implementing federal development projects. The states are meant to provide the LGCs with planning, logistical and financial assistance. The frontline responsibilities for infrastructural development and provision of local social services, however, rest squarely on the shoulders of the local governments. The LGCs are responsible for development of local infrastructure such as the running of day-to-day operation of all health care centres, implementation of government education policies and the provision of community facilities such as markets and community halls (HRW, 2007). Apart from the statutory allocation that states receive from federation accounts, Niger Delta states receive extra revenue based on resource allocations which are intended to ensure that oil producing areas have a share in the revenue from the resources extracted from their region. Instead, funds have often been embezzled and squandered, and

corruption and mismanagement have robbed citizens of basic social services and amenities (see Figure 4.16) and given rise to the development of the civil society in the form of community based organizations to fill these gaps (Khemani, 2006; HRW, 2007).

FIGURE 4.16: Flooded Road in Uyo where cars drive through.



Source: Author

Corruption in Niger Delta states and local governments has directly fuelled political violence and other forms of human rights abuse, and has subverted ostensibly democratic processes (HRW, 2007). Corruption therefore undermines the provision of basic services at the local level. LGCs generally treat budgets and financial reports as closely guarded secrets (Khemani, 2006), thereby taking away the ability of citizens to monitor where money is going, while local leaders are getting rich and the poor keep getting poorer.

4.5.3 Poverty in the Midst of Plenty

Although the Niger Delta region is rich in human and natural resources, arts and culture, the reality of the socioeconomic situation today is a paradox of poverty amidst plenty. The people of the region ought to do far better economically based on the considerable level of resources in their midst; instead they have been largely excluded from benefiting from the development gains of oil wealth even as the resources that are transforming other parts of

the country have poured out of the Niger Delta. Being the major source of oil revenues that account for over 90 per cent of foreign earnings and about 85 per cent of state revenues, the region is by far the most central to the nation's economic and political survival (Obi 1997). But, paradoxically, the region is one of the poorest, least developed and least reciprocated for its contributions to national wealth (see Figure 4.16 – 4.18). The collapse of the rural agrarian economy in the Niger Delta and the deprivation of their traditional occupations coupled with the absence of alternative employment have inevitably led to the entrenchment of poverty among the peoples of the Niger Delta (Aluko, 2004). Obayelu and Ogunlade (2006) refer to this as the ‘Nigerian paradox’ and argue that the poverty level in the country contradicts it’s immense wealth, as over 70 percent of the people wallow in absolute poverty with no food, clothing or shelter.

The National Bureau of Statistics (2005) puts the poverty levels in the Niger Delta at 54%, except for Rivers and Bayelsa state which are at 44%. The UNDP (2006) however argues that the poverty rate based on self-assessment is much higher than these data indicate and puts it at 74.8%. Their report further argues that a realistic assessment of poverty should include access to basic services such as health care, education and good water, and it should encompasses the issues of discrimination, neglect and the lack of a voice.

FIGURE 4.17: Living in Squalor in Mbiaya Uruan



Source: Author

FIGURE 4.18: Rural dwelling in Mbokpu Oyekan



Source: Author

4.5.4 Conflicts

The Niger Delta is a conflict ridden region that is seen by some as a “zone of violence” (Keane, 1996: 6) and “a region of insurrection” (Ikelegbe, 2001:463). The region has experienced an explosion in the number of conflicts and social unrest which has drawn national and international attention, most notably the Ogoni crisis that resulted in the death of Ken Saro Wiwa (Apter, 1998; Saro-Wiwa, 1997). This increase has largely been as a result of activities of various militant groups in the forms of youth restiveness, hostage taking and other forms of social unrest.

The most prevalent types of conflict are intra-community conflicts, inter-community conflicts, inter-ethnic conflicts and conflicts between communities and oil companies (UNDP, 2006). Watts *et al.* (2004) classifies conflicts in the Niger Delta into two broad groups: intra-community and inter-community. Intra-community conflicts are struggles over authority by youth groups, women’s organization, cultural groups, and ruling elites, while inter community conflicts refer to inter-ethnic or inter-clan conflicts which are usually over territory and access to land and marine resources. Watts *et al.* (2004: 3)

further identify at least four different conflict patterns: first, conflicts within the community between chiefly rule and various insurgent social groups; second, conflicts between communities over property and territorial control over oil bearing lands or oil installations; third, conflicts engendered by communities struggling to create their own local government or electoral districts as a means of securing access to federal petroleum revenues; and fourth, conflicts in oil producing communities that spill-over into diaspora communities elsewhere in, and outside the Delta. Watts *et al.* (2004) surmise that conflicts at the community level result from challenges to customary forms of community governance, triggered by the presence and activities of oil operations, and expressed through struggles over land rights, and access to company rents and resources.

Some reasons why this region is riddled with so much conflict include its peculiarities as the centre of Nigeria's oil industry and their attendant consequences, the realities of a limited land area, a fragile environment which is compounded by a difficult geographical terrain, the heterogeneity of cultures and traditions, extreme poverty, and the agitation by individuals and communities for a greater share of the region's vast oil revenues, particularly as they bear the full burden of environmental degradation caused by the oil industry (Omofonmwan and Odi, 2009; UNDP, 2006; Obi, 1997). The contradiction of wealth generation amidst poverty has generated anger, frustration and hostility against the state and multinational oil corporations. This has given rise to the proliferation of ethnic militias (see Figure 4.19) that have emerged to take the law into their own hands, practising a kind of jungle justice and many times bringing the operation of oil companies to a halt (Omofonmwan and Odi, 2009). This in turn discourages investment in the region, affects company profits and government revenues, and endangers livelihoods. The increasing levels of conflict in the region further compounds a social situation that is already characterised by massive poverty and environmental degradation, and where corruption has robbed communities of potential benefits from the considerable federal, state and local government revenues from oil and gas sales.

FIGURE 4.19: Militia Group in Bayelsa Creeks



Source: The Nigerian Inquirer (2010)

The Niger Delta development story is one full of paradoxes. Although people in the region now receive huge revenues with the promise of socio-economic development and transformation of the region, in reality the Niger Delta suffers from administrative neglect, crumbling social infrastructure and services, high unemployment, social deprivation, abject poverty, filth and squalor, and endemic conflict. In addition to oil and gas deposits, the Delta is blessed with good agricultural land, extensive forests, excellent fisheries, and a large labour force, but juxtaposed against the potential for economic growth and sustainable development are deteriorating economic and social conditions that have been largely ignored by contemporary policies and actions (Jonathan, 2004).

4.6 PROFILE OF RESEARCH LOCATIONS

My field research was conducted in three states in the Niger Delta region: Bayelsa, Akwa Ibom and Rivers states. The research locations have varying levels of population, size and development. They range from rural to urban with populations as little as 1,000 in small communities to over 25,000 in urban communities. In this section I present brief profiles of my research locations gathered from interviews and informal discussions with community members and leaders. Population figures and other statistical data were gathered from the National Population Commission, Bureau of Statistics and from the community leaders.

FIGURE 4.20: Site of First Oil Well in the Niger Delta



Source: Photo taken by Sunday Alamba

4.6.1 Bayelsa State

Bayelsa State was created on October 1, 1996 out of the old Rivers State. It is the youngest state in the region and the least developed. Bayelsa State is a major oil and gas producing area and it contributes over 30% of Nigeria's oil production. It has one of the largest crude oil and natural gas deposits in Nigeria (Watts *et al.*, 2004). As a result, petroleum production is extensive. Oil was first discovered in Oloibiri in Bayelsa State in 1956. Now Oloibiri remains one of the poorest communities, only remembered by a decrepit signboard bearing 'Oloibiri well No.1, drilled June 1956, 12, 008 feet' (see Figure 4.17). Bayelsa is a riverine and estuarine area with many communities completely surrounded by water. It has eight Local Government Areas: Brass; Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama, Southern Ijaw and Yenagoa. As outlined in Chapter 3, three areas were chosen in Bayelsa for my interviews and focus groups (Table 4.3).

TABLE: 4.3 Research Locations in Bayelsa State

SITES	PROFILE
Yenagoa	Yenagoa is the capital of Bayelsa State with a population of about 150,000 people. The land is waterlogged because it is an island surrounded by water. There is a scarcity of dry land. During rainy seasons wooden bridges are built to enable people to move between areas because everywhere becomes swampy. The major source of livelihood is fishing. Yenagoa is the traditional home of the Ijaw people, Nigeria's fourth largest ethnic group. Yenagoa is also a major base for militant youths who are responsible for the restiveness in the region. Information networks are abundant because it is a metropolis; the city has many internet service cafes, satellite services, and mobile phone networks. Televisions and radios are available in most homes.
Imiringi	Imiringi is a small community in the Ogbia local government area. It has a population of about 2,000 people. The people are mostly fishermen, farmers and civil servants. The farm work is generally done by women and children, while the men do the fishing. The few educated ones work for the civil service. The community is very underdeveloped and the people seem to live in a closed community with little or no interactions with the outside and neighbouring areas. There is only one mobile network providing access in the community. There is no internet access, there are no companies or factories in the community and few job opportunities except for farming and fishing.
Amassoma	Amassoma is situated in Southern Ijaw Local Government Area of Bayelsa state. It is located 20 kilometres from Yenagoa, the state capital and it is the only island in the local government area. The population of Amassoma, is about 7000. The major economic activities oil and gas exploration and exploitation, timber processing, small-scale farming and fishing, land and water transportation. Although it is a University community - the only university in the state (Niger Delta University) is located within its borders - it has a persistent rural outlook and lifestyle.

4.6.2 Akwa Ibom State

Akwa Ibom was created in 1987 from the former Cross River State and is currently the highest oil and gas producing state in the country. It has 31 Local Government Areas. The main ethnic groups in the state are Ibibio, Annang and Oron. Major urban centres include Uyo, Eket, Ikot Ekpene, Abak, Ikot Abasi and Oron. Table 4.4 provided brief profiles of my research locations in Akwa Ibom.

TABLE 4.4: Research Locations in Akwa Ibom State

SITES	PROFILE
Uyo	Uyo is capital of Akwa Ibom state. The population is estimated to be about 304,000 as at 2006 and it is inhabited mainly by the Ibibio ethnic group. A collecting station for palm oil and kernels, it is also a local trade centre for yams, cassava, and palm produce. The town has a brewery and a textile mill. The people of Uyo were traditionally predominantly farmers and traders. But in the past twenty years it has become a big city with rapid development and an influx of businesses, investment and educational establishments. Uyo has three tertiary educational institutions. Anua community in Uyo was the focus area during the research. It is located on the edge of the city and the people blend rural living and city lifestyles with majority of the employed working in the city.
Mbokpu Eyokan	Mbokpu-eyokan is in Urue Offong Oruku LGA, set in a lowland tropical rain forest. The community is separated from their neighbours by streams creating the impression of an island. It is inhabited by the Oron ethnic group. They are a twelve clan village and the people are agrarian. The community possesses a dilapidated ill-equipped primary and secondary school, an eight bed clinic and are connected to the national grid of erratic electricity supply. Poverty levels are very high in this community and it is very rural.
Ididep	Ididep is in Ibiono Ibom LGA, and comprises 24 villages. Most of the teeming population are youths (mainly young school leavers). A majority of the adult population are unemployed and the remaining few earn income as commercial motorcycle riders for men and petty trading for the women. Most families compliment their livelihood by farming on their personal lands.
Mbiaya Uraun	Mbiaya Uraun is one of the 40 villages in Uraun local government area. It has a population of about 5,000 people. The main source of livelihood is farming but other occupations include fishing, trading, clay moulding, arts and crafts, canoe/boat building. Mbiaya is a very poor community, thatch and mud houses can be seen all over the village. There are no cyber cafes and power supply is very limited. The community is recently experiencing some developments because an international airport is being built 15 minutes away and the government has started construction of a big hospital in Uraun Local Government Area. There is GSM and radio access in Mbiaya.

4.6.3 Rivers State

Rivers State, named after the many rivers that surround it, was formed in 1967 with the split of the Eastern Region of Nigeria. Until 1996 the state contained the area that is now Bayelsa State. It is the most developed state in the region and the state capital is one of the three major cities in Nigeria with one of the largest economies in the country. The state has two major refineries, two major seaports, an international airport, and various industrial estates spread across the state. Rivers State has 23 Local Government Areas. Table 4.5 provided brief profiles of my research locations in Rivers state.

TABLE 4.5: Research Locations in Rivers State

SITES	PROFILE
Ogan Ama	Ogan Ama is situated in Okrika Local Government Area (LGA). It is an island surrounded by water. Ogan Ama is the only community in the local government area referred to as mainland because it is situated in the centre of the LGA and not surrounded by water. It is one of the four villages that make up the LGA. It is a small community of about 1000 people where everybody knows each other. This community has a high level of literacy especially among the younger generation. Shell PLC and Chevron have a refinery in the LGA. The main livelihood of the people is fishing. This is being threatened because of the refinery pipelines that run through their waters. There are mobile phone networks in operation in the community with radio, TV and cable signals being received.
Rumuji	Rumuji community is situated in Emohua LGA of Rivers State. It is a community made up of four villages. They belong to the Ikwere ethnic group in the Niger Delta. They have a population of about 25,000 people. There are five secondary schools and many primary schools. Other amenities in the community are: the weekly and daily markets, a health centre that is not functional, bad roads and intermittent power supply. The main source of livelihood is farming and fishing. The radio and television signals from the capital city of Port Harcourt are accessible in Rumuji. Mobile telephone services are also available in Rumuji supplied by the three major GSM networks in Nigeria.
Port Harcourt	Port Harcourt is the capital of Rivers State and a port city. The city has a large population of over 1 million people. It is mainly inhabited by the Ijaw people who are the predominant ethnic group in the Niger Delta. It serves as a port, and is named after Lewis Harcourt – the colonial secretary in 1912 when it was founded. Port Harcourt is an important merchant port and is today the centre of Nigeria’s oil industry. Its exports include petroleum, coal, tin, palm products, cocoa and groundnuts. Among the industries of the area are timber processing, car manufacturing, food and tobacco processing and the manufacture of rubber, glass metal and paper products, cement, petroleum products, paint, enamelware, bicycles furniture and soap. Due to the numerous oil companies it has a very large population made up of immigrants from other parts of the country and various parts of the world with a heavy presence of expatriates.

4.7 CONCLUSION

This chapter has set the context for my research. The major focus was the Niger Delta and the developmental challenges faced by the people in the region. Indigenous communities in the region are gradually being eroded. Existing patterns in the Niger Delta exclude the grassroots disadvantaged groups and people from the ongoing development in the country where they remain voiceless. Transparency, responsiveness, accountability, participation, access to information, knowledge, education and awareness, sustainability, and conflict management are all important elements which ICTs can support directly or indirectly to prepare for the impact of globalization that is characterised by a technologically shrinking world. Efforts must be made to improve their deplorable circumstances to such a level that will allow them to participate effectively in development options. Discussions need to turn to how we can support and improve existing social institutions to develop communities sustainably in the Niger Delta Region.

There have been many academic studies carried out on the Niger Delta region, but these have mainly focused on environmental degradation, oil and gas activities in the region and the escalating violence in the Niger Delta. I do not know of any research which has sought to involve the marginalised people and disadvantaged groups in the region in exploring locally sustainable options for the development of communities. It is in this area that my research seeks to contribute to current knowledge on the region and fill the identified gap in the literature.

CHAPTER 5: Local Constructions of Sustainable Communities in the Niger Delta Region of Nigeria

5.1 INTRODUCTION

The conceptual framework in Chapter 2 highlighted a growing need for practitioners to adopt a holistic approach in ICT for development initiatives by incorporating the structures that exist in communities before designing solutions for marginalised communities (see Tacchi and Slater, 2003; World Bank, 2006). Research in developing countries requires a perspective of understanding emerging technologies as not simply external tools, but rather as integral parts of socio-cultural practices within a community (Miller and Slater, 2000). In this chapter I explore the social and cultural context of communities in the Niger Delta as a starting point for understanding how ICTs may be employed for the sustainable development of these communities.

The empirical study presented here focuses on understanding the local conceptions of community in the Niger Delta and the socio-cultural context of these communities, subdivided into three main objectives:

- To provide a better understanding of the nature of community in the Niger Delta.
- To show an emerging concept of sustainability as constructed by the Niger Delta people; and
- To show how these constructs may impact community development outcomes and ICT adoption.

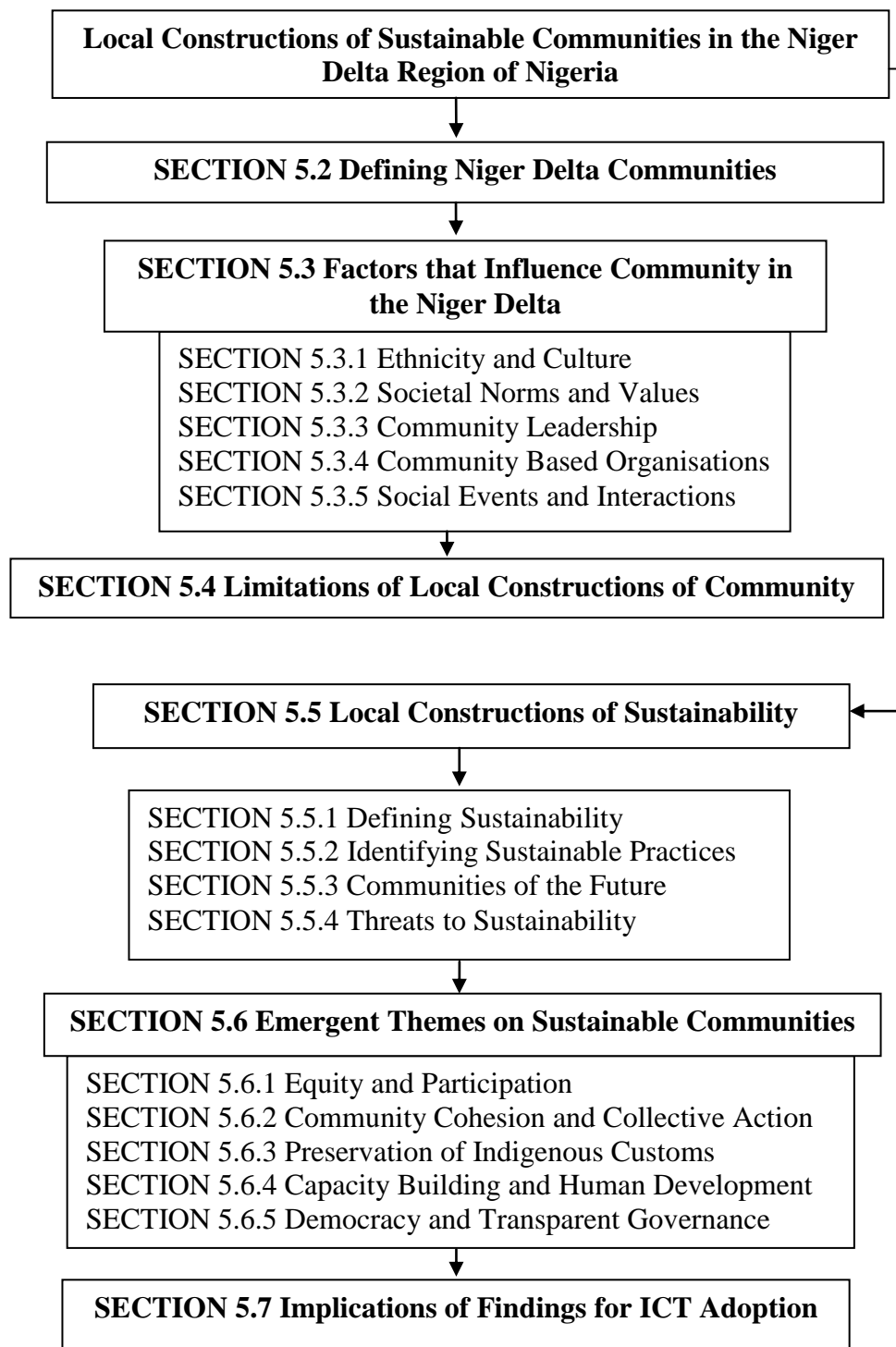
The main methods used to achieve these objectives were focus group discussions and in-depth interviews with community members in nine communities across the three states of Bayelsa, Akwa Ibom and Rivers. In each of these states, three communities were selected based on the diversity of their cultures, ethnicity, differing levels of development and population to represent effectively the Niger Delta as a whole. In each state, one community was urban and two rural communities were studied, to enable a comparative analysis of rural versus urban constructions of meanings of ‘community’ and ‘sustainability’. Four focus groups were conducted in each state. Table 3.3 in Chapter 3 shows the size and number of focus group in each state. One was with females and another

with males under the age of 35, the third was with older women and the fourth was with men over 35. So in total there were 12 focus groups. Three focus groups were conducted in more urban communities and nine in more rural communities. Participants were drawn from various backgrounds ranging from students, professionals and civil servants to artisans and market women. Group size ranged from between 5 -14 people. I used focused in-depth interviews during the preliminary study to reveal the meanings, narratives, experiences, feelings and motivations around community and sustainability.

104 semi-structured interviews were initially conducted in the nine communities with an average of 10 interviews per community, with the exception of the communities of Rumuji and Mkpoku Oyekan which had 15 interviews and Amasomma which had 14 interviews. After a preliminary analysis of the interview data, emergent themes were identified and another set of interviews that were structured to address these themes was conducted. 45 interviews were conducted in this second round and four communities were revisited for interviews (For more details on data collection, see section 3.4.1.1 - 3.4.1.3).

The insights gained are presented in three main sections. In the first part I discuss the nature of community in the Niger Delta and explore key factors that influence the concept. Second, I discuss local constructions of sustainability, letting the people define for themselves what this means to them. Finally I discuss the implications of these findings for sustainable community development and technology adoption. Some interviews were conducted in Pidgin English, where I cite quotations in Pidgin English, these are accompanied by a translation in more formal English. The Chapter overview is presented in Figure 5.1.

FIGURE 5.1: Chapter Overview



5.2 DEFINING NIGER DELTA COMMUNITIES

In this section, I present local constructions of community in the Niger Delta, based on the evidence from my empirical research. I start with the definitions received about communities from respondents. I then go on to explore five key factors that seem to influence the idea of community in the Niger Delta.

The first objective in the interviews was to collect local definitions of community, to explore people's conceptions of the word 'community', and to acquire understanding of the local meaning attributed to the term 'community. In this vein the first three questions asked were:

- "When you hear the word 'community' what comes to your mind?"
- "How would you define the word 'community'?"
- "Which community do you consider your community and why?"

Table 5.1 shows that the answers to these questions were quite similar among all of the 104 people interviewed in the nine communities with some of the definitions given including two or more elements presented in this Table. They have been broken down and grouped to show the most recurrent definitions, and the responses column consists of direct quotations from the interview data.

Table 5.1 suggests that there are clear markers of 'community' in the Niger Delta. To synthesize these definitions, 'community' is identified as a geographical area, where people of common descent reside. It is also called 'community' by the people, when they share common traditions, value system, language and culture. To compare and contrast this notion of community with western definitions I refer to sociological literature on the subject (Gusfield, 1978; Wilkinson, 1991; Weber, 1978). While there are many definitions of community, a review of the sociological literature reveals at least three core components of community. These components provide a useful lens with which to document the nature of community in the Niger Delta.

TABLE 5.1: Local Definitions of ‘Community’

RESPONSES	Number with same or similar definition	%
<i>A community is a group of people living together</i>	89	65%
<i>Community is where your parents come from, where I was born, where I grew up.</i>	66	63%
<i>Community is a group of people living together to achieve a set goal.</i>	18	17%
<i>Community is a set up where so many people live in peace and harmony, sharing the same culture, market, hospital and other facilities.</i>	9	9%
<i>Community is a collection of people and non- human elements that come together to achieve a specific agenda</i>	7	7%
<i>Community is a group of people living together, sharing common ideas, beliefs and way of life who either come together on their own or grouped together politically for common good.</i>	2	2%
<i>Is a group of people guided by the same tradition, cultures, beliefs, language</i>	63	61%
<i>Where people live and carry out their daily activities to earn a living, with the same origin and language.</i>	3	3%
<i>A community is a geographical area that comprises of families, compounds.</i>	18	17%
<i>A geographical area that has a boundary</i>	5	5%
<i>Community is a set of people organised by themselves to hear one another</i>	2	2%
<i>A community must be greater than a village both in land mass and population and it must have tradition and must have rulers.</i>	1	>1%
<i>Community is a group of family people, where people have off one ancestral parent</i>	13	12.5%

Source: Author’s interviews, August – December, 2007

The first and most important element of community is what Gusfield (1978) refers to as consciousness of kind. Consciousness of kind is the intrinsic connection that members feel toward one another, and the collective sense of difference from others not in the community. Consciousness of kind is shared consciousness, a way of thinking about things that is more than shared attitudes or perceived similarity. It is a shared knowing of belonging (Weber, 1978). In the Niger delta this consciousness of kind is very present in their definitions, and is reflected in phrases such as “*sharing common ideas*”, “*where*

people of ancestral origin live together”, “a group of people guided by the same traditions”.

Gusfeld (1978) refers to this consciousness as an *intrinsic connection*. The implication is that it is innate and natural. This seems to be true of Niger Delta communities. While the literature explains these connections by the locality and amenities that people who live together share, the bonds that bind people in communities in the Niger delta appear much deeper and stronger than many of those in European societies. Bonds of ethnicity, shared lineage and heritage, common laws and practices, local leadership, forms of social interactions, and common language are all some of the factors that influence community in the Niger Delta. This is what brings about this intrinsic connection to which Gusfeld (1978) refers. The impact of these factors is discussed in more detail in the next section.

The second component of community in the Niger Delta is the presence of shared rituals and traditions that perpetuate the community’s shared history, culture, and consciousness. Rituals “serve to contain the drift of meanings . . . they are conventions that set up visible public definitions” (Douglas and Ishwerwood, 1979: 65) and social solidarity (Durkheim, 1965). Traditions are sets of “social practices which seek to celebrate and inculcate certain behavioural norms and values” (Marshall 1994: 537). The following two definitions of community given by respondents in my research reflect this and suggest that people’s conduct or behaviour is affected by traditional beliefs and values: “*A group of people guided by the same tradition, culture, belief and language*” (Amasomma, Male, 45, Meat Seller, Married); and “*An umbrella of units coming together for a specific purpose where everything is done according to the culture and tradition of that place*” (Mpoku Eyokan, Male, 38, Pastor, Married)

The third component of community is a sense of moral responsibility, which is a felt sense of duty or obligation to the community as a whole, and to its individual members. This sense of moral responsibility is what produces collective action at times of threat to the community. The definitions from respondents about community clearly reflected this sense of moral responsibility and sense of duty associated with community membership. “*Like our youths. When boys in the village are doing their thing, and cooperating, when*

boys are united in one thing, one mind, whatever their chairman says. They do things together. That is community “Community is a group of people living together to achieve a set goal.” *”Unity and Development make a community”* (Port Harcourt, Male, 47, Civil Servant, Lawyer in the State Judiciary, Married).

While the interviews with community members highlighted certain similarities in the views expressed about community, I found that urban youths had a slightly different take on community from those in all of the other focus groups. The youth focus groups was characterised by very heated discussions on ‘community’ and what it means. The following are some of the comments from the youth’s definitions for ‘community’.

“Community as the word implies means communion among people”

“Community has to do with where we reside and the people we commune with”

“Community is about sharing ideas and more of human interaction”

“To be part of a community there must be interaction, participation, commitment, contribution”. Focus Group Discussion, Uyo, Male and Female, Ages 18-30)

What is noticeably absent from these definitions are the references to traditions, culture and societal norms that were constantly reiterated by other respondents in more rural communities. This may well result from a combination of factors brought about by the inextricable enclosure of different people with different ethnic origins in urban areas of a modern new state. From the empirical data, three main factors seem to be important in influencing this: enhanced communication systems that expose the youth to new media and provide increased access to information from all over the world; increased frequency of social and cultural interactions with people from different traditions; and common political participation and socialisation within the country. Modernisation and enhanced communication systems have exposed these urban youths to alternative ways of life and different worldviews from those in more tribal, close knit communities. Their focus was more on the structure of interactions and communion defining what a community is. It could still be observed though that even these youths considered their place of origin as their community, albeit with a few contrary voices. Focus Group Box 5.1 below presents an excerpt from a youth focus group discussion in Yenagoa, the capital of Bayelsa State,

which shows how the group dynamics played out when the topic of defining communities came up. It also reflects the mix between traditional views and western ideology which was common in discussion with urban youths in the Niger Delta.

Focus Group Box 5.1

UO: *So what does community mean to you?*

Ugochukwu: *Community is the environment you find yourself in at any point in time. For me community is where I am doing my youth service now.*

Peres: *Community is your village not where you are serving.*

Adaobi: *Me too, community is my village. It is my place of origin.*

Vera: *Community is my hometown, my place of origin.*

Ugochukwu: *I disagree with the fact that community is your place of origin; community is wherever you find yourself, wherever you live.*

Peres: *Where you find yourself is your neighbourhood not your community. There is a difference between neighbourhood and community.*

UO: *Peres you have brought up an interesting concept, neighbourhood and community. What is the difference you were referring to?*

Peres: *Neighbourhood is an area you live, the people you find yourself living with, those living around you but you don't have to be from the same place, and you can share amenities. While, community is your place of origin, where you come from.*

UO: *I would like to hear from the girls because you have not said much. What do you think about what Peres has said?*

Adaobi: *I agree with him, the people you live with are your neighbours not your community members. It is a neighbourhood.*

UO: *What about you Vera?*

Vera: *I have already said it, that your community is your hometown.*

Emman: *We don't really have communities over here.*

UO: *What do you mean by that?*

Emman: *We don't have amenities,*

Joy: *It is the behavioural pattern of people that determines whether they are a community. Now you are identified by where you come from. For example when someone loses his temper and behaves violently, what do we say? we say 'awo Annang ke do'. That is 'he is an annang man' when you say that people understand that people from there behave like that, so it is expected, people will say ah! no wonder, so we identify and link people to their communities here by their behaviour.*

Emman: *When we talk of community, there must be an atom of commune; the communion has to be there, if it is not there, the community is not perfect. There must be something to connect us.*

Adaobi: *How can you be in one place and have communion with someplace else. Community requires a relationship.*

Emman: *Community may vary. Some people are from Imo, they live in Uyo, but work in eket. which one is their community? If commune, defines community. He is communing in all three places.*

Adaobi: *That means a person could have more than one community.*

Emman: *Your immediate environment is your community. For example I live in Itiam lane, so I consider Itiam and Aka road as my community.*

From this discussion it is evident that community conjures a different meaning for different people. But from an analysis of all responses received, 97% think that community refers to your place of origin. This also highlights a key difference from western ideology in which your neighbourhood is your community (Swaroop and Morenoff, 2006; Mannarini and Fedi, 2009). In the Niger Delta, participants made a clear distinction between neighbourhood and community. The following excerpt from an interview conducted in Imiringi community best encapsulates what it means to be a community member and how community is viewed in the Niger Delta.

Q: What makes you a part of this community?

A: One, I'm a part of the settlement; two, I'm a native of the settlement; three, I know much about the settlement, and four, I contribute towards the development of the settlement or community. (Imiringi, Male, 45-50, Unemployed, Married)

5.3 FACTORS THAT INFLUENCE COMMUNITY IN THE NIGER DELTA

Of the many factors that influence community in the Niger Delta, five appear to have been particularly significant in terms of their potential impact on the development outcomes in the communities where I undertook my research.

5.3.1 Ethnicity and Culture

As identified from the definitions of community given above, ethnicity and culture are the strongest factors that affect community in the Niger Delta. Identity and culture are two of the basic building blocks of ethnicity (Nagel, 1994). The construction of ethnic identity and culture is the result of both structure and agency - a dialectic played out by ethnic groups within the larger society. Ethnicity is the product of actions undertaken by ethnic groups as they shape and reshape their self-definition and culture (Nagel, 1994).

My research supports Mare's (1993: 23) statement that people's identities can "revolve around their ethnic and other social groups, which confers (a) culturally specific practices and a unique set of symbols and (b) a sense of belonging that helps to define their interactions with both insiders and outsiders". In each community except for the state capitals, the people had very distinct cultures and traditions, although some communities

within the same state shared some similarities in their culture and traditions. They differed in one way or another in their leadership structure, language, social norms and values. There are, though, communities that share the same ethnicity but are distinct from each other by the way they have reshaped their culture. Otitie (1990) offers a suitable definition of ethnic groups that can be appropriately applied to make sense of ethnic groups in Nigeria. He defines ethnic groups as categories of people characterised by cultural criteria of symbols including language, value systems and normative behaviour, and whose members are anchored in a particular part of the new state territory. It is pertinent to bring out a few distinct features of this definition and apply it to the Niger Delta. The first is that an ethnic group is identified with a particular geographical part of the country; for example, the Ibibio of the south-eastern part, the Ijo (Ijaw) and Urhobo of the Delta area, all in the Niger Delta region which is politically referred to as the south south region of Nigeria.

Second, culture provides the main social marker of ethnic groups in the Niger Delta. Members of one ethnic group, for example the Annangs of Akwa Ibom State, do things and organise their lives in a way that is different from those of the Ibibios of Akwa Ibom State. You can come from the same state and have a different ethnic origin and this affects the culture. For example Akwa Ibom state has three recognised ethnic groups that exhibit different cultural dispositions. Certain components of culture, such as language and organisational forms, do overlap, as with the languages derived from Efik or Ibibio language in the Cross River and Akwa Ibom States. Such groups of languages have many corresponding items. Yet, language is not a sole marker of an ethnic group. Speakers and non speakers of a language may or may not necessarily belong to the same ethnic group.

Third, all the distinct ethnic groups form inextricable parts of the Niger Delta. Each is encapsulated in a wider network of social relations provided by the state. Within this framework, each group develops and manipulates its own mythology of descent, ritual beliefs and moral practices, while its members share an exclusive culture and normative behaviour. Members of each group share an identity which they use as a means of forging relationship within the political and economic spheres and in accessing resources within the state. Thus, each community devices its own means of consolidating its boundaries

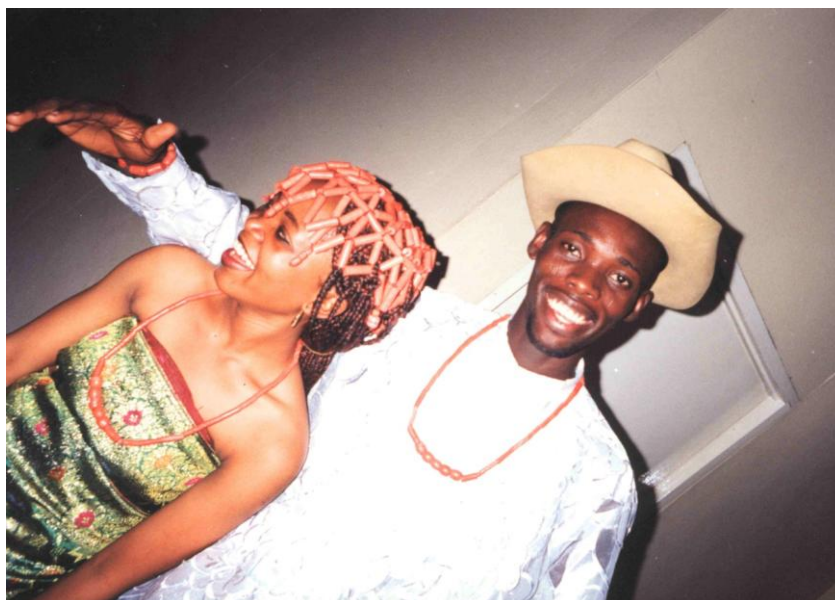
sustained by myths and symbolism. Since each community co-exists with others in the state, its 'social and cultural boundaries are frequently broken through interactions.

FIGURE 5.2: Attire from Ibibio/ Efik Ethnic groups



Source: Author

FIGURE 5.3: Edo Ethnic Attire



Source: Author

Finally, each ethnic group in the Niger Delta is a cultural expression of its projected kith-and-kin ideology. It is this distinct group that the people refer to as community. So

ethnicity and culture form a boundary that defines community. Hence, members of one community regard themselves as ‘*brothers*’ and ‘*sisters*’ as members of the same ‘*family*’ with the implied trust, reliability, mutual assistance, and defence whenever needed or solicited. However, ethnic boundaries in the Niger Delta as elsewhere can be confusing and can be manipulated. Each ethnic group has its own identifiable way of life, mode of dress, values, food and food habits, cultural predispositions for members to do or not to do certain things, and its shared mechanisms or patterns of socialising its members. Figure 5.2 and 5.3 thus depict different ceremonial traditional Nigerian attire from two ethnic groups in the Niger Delta.

My research provided ample evidence of ways in which ethnicity and culture influence community. Here I present four of these that featured most prominently in the interviews and focus groups I conducted:

First, sharing a common history gives a sense of collective responsibility for community development activities and inspires community cohesion.

Q: Do you mean you are a member of Amassoma Community?

A: Yes. I am a bonafide member because I was born and brought up here.

Q: What do you think holds the people of Amasomma together?

A: Language, culture and tradition. (Amassoma, Male, 31, Health Worker, Single)

Q: What do you think binds you together with other members of your community?

A: There is peace, love and also we all are from one ancestral parent. (Ogan Amah, Male, 42, Civil Servant, Married)

Second, belief that they come from one kin strengthens community ties, sense of belonging and mutual trust.

Q: What do you think that binds you together with other members of your community?

*A: There is a belief that one person came to form this community.
(Imiringi, Female, 29, Single)*

Q: Tell me what binds people in Mkpoku Eyekan?

A: We are brother and sisters, one father and mother, as far as Mkpoku Eyekan is concerned. Our forefathers had 5 children, each married a wife and started to have their own family, and like that they grew to form this community. (Mkpoku Eyekan, Male, 32, Politician)

Third, culture is a greater boundary marker than geography or ethnicity. For example in Rumuji, a group of villagers dwell together in a close geographic space and share the same market, but the people identify five distinct villages among them, each being part of one community based on culture and societal norms and values, even though they share the same space and ethnicity. Strong sentiments were expressed when you asked respondents who are not living in their communities of origin why they do not consider the locality they reside as their community. These sentiments expressed in the following two excerpts from Amasomma community demonstrate more than anything the influence of culture, origin and ethnicity on people's conceptions of community.

Q: So based on your definition of community, Amassoma is your community.

A: No, because I am from Ika North East in Delta State.

Q: But you live here.

A: You don't understand. If you are born here in Amassoma for example your parents are from Amassoma, you can say that Amasomma is your community, but I was born and brought up in Ika so that is my community.

Q: So what binds you with Ika community when you live here in Amassoma?

A: We speak the same language; have the same culture and same type of food. (Amassoma, Female, 38, Housewife, Married with children)

Q: *Is Amassoma your community?*

A: *God forbid! I was not born here, I only live in Amasomma. Besides, I am not guided by the traditions of this community. I have my own community and I am guided by my traditions.*

Q: *What do you think binds you so strongly with your own people?*

A: *Language, traditions. Language brings us together as a state, but tradition differentiates us from other communities. Cultural development binds us together.* (Amassoma, Male, 45, Meat Seller, Married with children)

And finally, the fourth way in which ethnicity and culture influence community is that cultural activities are bonding mechanisms for community people and create avenues for social interactions and helps develop a sense of community pride.

Q: *What forms of social events is most valued in this community?*

A: *We have age grade meetings, celebrations and religious festivals*

Q: *What are the impacts of these events on social relations within the community?*

A: *It affords active participation of members in community development.* (Port Harcourt, Male, 47, Civil Servant, Lawyer in the State Judiciary, Married).

Ethnicity and culture in the Niger Delta are like a double edged sword that cuts both ways. They play both constructive and destructive roles. On the one hand, ethnic affiliations provide a sense of trust, certainty, reciprocal help, and protection. Trust is variously described as the critical component of any social cohesion (Coleman, 1990). They also provide unconventional but effective spaces of engagement, offer useful and more appropriate methods and approaches to development. Yet on the other hand these affiliations can harbour power structures and relations that fuel and sustain inequalities and conflict, infringe on fundamental rights and influence people's choices and actions.

5.3.2 Societal Norms and Values

All societies exhibit some degree of social norms that directly or indirectly guide people's behaviour. Elster (1989) argued that there are two principal problems of social order,

coordinating expectations and achieving cooperation, and that social norms are especially important for coordinating the expectations of society. Such studies have demonstrated the powerful role that social norms play in regulating people's behaviour across countless situations. Scott (1995, 2001) similarly states that communities are supported by culture-cognitive and normative structures with symbolic elements which include rules, laws and sanctions. Norms and values are the symbolic elements of this structure. The normative structure defines desired objectives and appropriate ways for pursuing them. "Values are conceptions of the preferred or the desirable...norms specify how things should be done" (Scott, 2001: 55). The cultural-cognitive structure consists of shared conceptions and understandings that taken for granted constitute the nature of social reality and the frames through which meaning is made (Nyanungo, 2006). "Cognitive systems control behaviour by controlling our conception of what the world is and what kinds of action can be taken by what type of actors" (Scott, 1995: xviii). Compliance occurs because practices, routines and roles are taken for granted as "the way we do things" (Scott, 2001: 57) this was very evident in my study sites.

In the communities studied for this research, societal norms and values played a strong role in influencing community and individual behaviour. These societal norms and values are a product of the community's culture, traditions and belief systems. This can be illustrated by an example from two communities in the same state. Rumuji and Ogan Amah are both in Port Harcourt State, but their societal norms are very different because of culturally specific practices and history, and so actions undertaken by these two communities have shaped and reshaped their culture and consequently the norms that community members live by.

In Rumuji community the people believe in idol worship and ritualistic practices, and still hold archaic traditions through which they are governed by the fear of the consequences of breaking any laws from their gods. They have laws such as that a man cannot sleep with his wife on the floor or he will die, and that a girl cannot have sex outside or she will die. They seriously believe this and I was given instances in one of the focus groups where people have died mysteriously by breaking these laws. Their values and norms come from their ritualistic origins and this influences their attitude and behaviour and they way the conduct themselves, as the following excerpt shows.

Q: So what do you people believe in affect your behaviour?

A: Ah! we cannot behave anyhow oh, if not you will just die for nothing. Here we have a lot of abominations and taboos like if you rape your sister and she did not say it for cleansing, she will die. If a stranger marry a girl from this community and have sex with her in an unclean land she will die. If a married woman have an extramarital affair in her husband's house, she will die and our shrine is a no go area. (Rumuji, Male, 26, unemployed, single)

On the other hand Ogan Amah in the same state has a unique history that has shaped the norms and values the people live by. During the civil war of 1967 - 1970 the community was greatly threatened and when they were under siege, the people tried all their ritualistic practices but still the attacks continued. One day, a man called the community together and told them to try the Christian God the missionaries had told them about and make a vow that if their community was preserved they would abolish all ritualistic practices. The community was indeed saved and until today they celebrate an annual event called 'Victory Day' every July where indigenes from all over the world come to celebrate that victory and it provides a social avenue where people set community development goals for the next year. This event opens up the community to a wider network of interactions and citizens in the diaspora return home annually for this celebration.

So culture and a common history play a significant role in the formation of values and norms. The social and cultural norms that people observe influence their attitudes and choices. In the Niger Delta people often do not act autonomously. Anthropologists have argued that the main effect of norms is to "stabilize social expectations and thus establish commitments to particular ways of acting in common social situations" (Ensminger and Knight, 1997: 2). The unique feature of social norms is that deviations from social norms bring "sanctioning of deviant behaviour" (Ensminger and Knight, 1997: 3). It is not simply the reaction of powerful others to enforce the norm that brings obedience, but, as Florini (1996: 364-5) observed, a "sense of 'oughtness'" that reflects the norm's status as a "legitimate behavioural claim".

In studying social norms in the Niger Delta, three important features were observed: first, they are shared by a large percentage of the community, and in some communities over 95% shared these same norms; second, they have consequences; and third, they serve as a bonding mechanism for both indigenes in the community and those living outside the community. Scales *et al.* (2001) argue that for an expectation to function as a norm - to guide or even direct behaviour - it must be shared by enough members of an individual's primary reference groups, or by enough members with the power to reward and punish, that the individual is motivated to *care* about complying or not complying with a norm.

Scales *et al.* (2001) further state that a genuine norm requires that there be a perceived consequence for violating the norm. If one perceives that a social norm can be violated without penalty, then it is more of a social *value* that can be applied or not in a given situation; it is not a shared rule that prescribes behaviour, but merely a preference that might influence behaviour. These attributes of normative behaviour were present in six of the communities studied. The other three communities: Anua, Uyo, and Yenagoa are located in urban sites with people from different ethnic origins living together who do not necessarily share the same norms and values.

Therefore, by ignoring or underestimating social/cultural norms and values, development practitioners can miss potentially fruitful entry points into communities or overlook some of the potential blocks that can hinder the successful implementation of projects, particularly ICT4D initiatives. Analysts such as Checchi *et al.* (2002); Soeftestad, (2001) and Westrup *et al.*, (2003) are now acknowledging that a more constructive approach is to understand the significance of culture in societies, the roots to both the positive and negative perceptions and how cultural traditions influence forms of behaviour that can both support and undermine development. An improved social and relational understanding will help practitioners recognize and respond to both the opportunities and the threats that culture presents (Moncrieffe, 2004).

5.3.3 Community Leadership

A key feature that was common among all the communities studied was that each one of them had some form of local self government organised by the people which has been passed down from one generation to the next. This system is very highly valued and

respected by the people and the leaders have much influence in these communities. The communities either have a traditional ruler or council of chiefs or elders who stood as the executive, legislators and adjudicators of the community. They do this by consultation with representative group leaders in the community such as women leaders, youth leaders, or an elders' forum. Watts (2004b) put forward some insights into why local traditional leadership is so influential in some Niger Delta communities. He argues that there is also a deeper history of local leadership. Colonial indirect rule certainly left much of the Niger Delta marginalized and isolated, but it also, in the name of ruling through tradition, built upon and frequently expanded or created chiefly powers of local rule. In some communities, colonial structures were grafted onto a deep and complex structure of kingship and gerontocratic rule. My empirical data identified many ways that community leadership influences community, and here I explore five of these that are particularly relevant to the sustainability of these communities.

When asked "*What kind of leadership do you have in his community and what do they do?*" a very old respondent answered:

"We dey do leadership by the elders of the community, Dem dey settle my land dispute. For me oh the CDC (Community Development Committee) dey more important than local government because even de local government dey come collect information from the CDC. Di organisation na di only one wey dey stay with us for meeting and dem be good youths. Dem dey give us information about wetin dey happen for outside the community and for government." (Rumuji, Male, about 66 years old, Farmer, Married with children)

Translation – Our leadership structure is by the elders of the community and they viewed as more important than the local government, because even the local government get their information from the CDC. They are the ones that live with us and they give us information about what is happening outside the community and in government.

Traditional local leadership is more highly rated and honoured than the official local government authorities because they are inclusive and responsive to community problems. The leadership structure has built within it structures to check the excesses of the leaders and elders in the community. When asked “*How is the leadership here rated? Are they as important as or more important than the local government authority.*” over 80 % responded that they are more highly rated than the local government authorities. The excerpts below provide evidence for this.

The local leadership, to us they are more important than the local government structures for we see them, we can correct them when things go wrong unlike the Local government which we do not see and don't have a say.

(Imiringi, Male, between 55-60 years, Civil Servant)

I think that they are more important because they are closer to the people, but they have not created much impact.

Q: What kind of impact?

A: *Development Impact.*

(Imiringi, Male, 32, Civil Servant, Married)

Na for here dem dey. Because local government no go come your community come dey tell de youths to do sontin and dem go do am. Na the heads of the community go fit control their own people.

(Translation from Pidgin English – It is the local leadership that is with you in the community, the local government staff cannot instruct the youths to do something and they will obey. It is the local leadership that has the power to influence the actions of the people and tell them to do something) (Ogan Amah, Male, 56, Security Man, Married with 8 kids).

Me I no know any local government people for here, na only our rulers na im I know say dem dey work for this community. Anything

wey happen, na dem dey stand for me, na dem dey talk for us even for government sef.

(Translation from Pidgin English – I don't know any local government people, these our rulers are the people I know, they are the ones who stand for me and fight for us in the government)
(Rumuji, Female, 60, Petty trader and Farmer, Married with 9 children)

Community leaders are the gatekeepers of the community and development practitioners require their support for successful implementation of projects. Berg (1999: 239) highlighted the “value of obtaining the support of community leaders when conducting research in minority communities”. However, community leaders can also act to block access in their role as community gatekeepers. He further argues that working with gatekeepers can have great benefits. They have local influence and power to add credibility and validity to the project by their acceptance of it (Seidman, 1998). Alternatively, they can erect barriers, preventing access and effectively shutting the project down before it has begun (Berg, 1999).

The following response supports this position:

They are very strong that whatever you want to do in this community you have to let them know until they approve it before you implement. They give us information about what is happening in both the government and our community. (Rumuji, female, 28, Trader, Married)

In Niger Delta communities, the elders and leaders are generally considered the gatekeepers of wisdom and the conduits for the preservation and renewal of linguistic and cultural tradition. An elder possesses knowledge of traditional teachings and ceremonies and is able to relate this knowledge to inform others. Another key role played by the leadership is that they are custodians of the traditions that have been passed down from previous generations. They advise people on decision making based on cultural traditions with historical precedence.

Q: *What role do the leaders of this community play in individual lives?*

A: *Of course (laughs) they try to guide the community as well as individuals in what they think or the tradition says is right.*
(Imiringi, Male, 32, Civil Servant, Married)

Q: *How do they influence your decision making and what kind of information do they give you.*

A: *They influence my decision very much because anything I want to do in this community, it must be with their knowledge and they can pass a law to stop it.* (Rumuji, Male, 42, Teacher, Married)

I look at the culture, how they influence me is how the culture says before I take a decision, (Imiringi, Male, between 55-60 years, Civil Servant)

The collective memory and importance placed on the elders to store information creates a strong system for information flow from the leadership to the people. They are a major source of information for the people, passing important information that affects the community to the people. This will be explored further in Chapter 6 relating to the ways in which new technologies can support or alienate these traditional information flows.

Yes. They are more important because without them, we can't have any information in this community. (Ogan Amah, Female, 23, Student seeking Admission into University, Single)

Q: *What kind of information does the leader bring to your people?*

A: *Plenty. When im go for meeting in the local government secretariat, im bring information to us. Like this road block wey we dey do so, na im tell us make we start am. Even this Ekpo wey we stop so, na him talk am.*

(Translation – The leaders brings us plenty of information. When he goes to the local government secretariat, he brings information from there for us. For example, the road block that we have started

here, he initiated it, even the traditional practice of Ekpo, he is the one that asked us to stop practising it.) (Ididep, Female, 20s, Petty Trader, Single)

Q: How do they influence your decision making and what kind of information do they give you.

A: They pass all forms of information they think is beneficial to the people.

Q: How do they influence your decision making?

A: Maybe when they don't like the decision, they will neglect it and give us the one to follow.(Imiringi, Male, 55-60 years, Civil Servant)

Another key role played by local leadership is that they act as judge and jury in conflict resolution. For example, they settle land disputes, marital conflicts and criminal offences such as stealing from another person's farm. They are so respected that some respondents were uncomfortable talking about community leadership because they said like it felt like standing in judgement of them; a few out rightly refused to do so. However about 5% of the respondents noted that they are disappointed in their local leadership and accuse them of corruption and furthering their own self interest.

Traditional stories are told cross generations by elders who often consider the accounts as belonging to the community and not to themselves. The elders' "collective memory and critical conscience of past experiences" shape their understandings of the social, physical, and spiritual worlds to which they belong (Dei *et al.*, 2000:46-47).

5.3.4 Community Based Organisations

One key feature in all the communities studied was that each hard organisations and associations which play a very significant role in the lives of people and the community as a whole in the Niger Delta. These bodies were informed by the leadership before I could undertake my interviews and focus group discussions, although it should be noted that they unanimously welcomed my study enthusiastically. This support was hugely valuable in

helping to ensure not only the success of my research, but also the likelihood that its findings would be of value and relevance in the communities where I was working. Overall, the rural communities had a greater sense of community and a collective responsibility for social action and development than the urban ones, but all of the communities studied had community organisations such as youth organisations, development unions and associations.

Nyanungo (2006) puts forward two characteristics of community organizations: First, their goals represent the interests and concerns of residents of the community and second the principal participants are residents of the community. She further notes that like other organizations, community organizations are composed of five elements—goals, social structure, technology, participants and environment. She further states that community organizations legitimize the roles that are played and knowledge produced by their members. In so doing, they shape the nature of participation and the process of learning that occurs within this context, they legitimize their processes on the basis of common beliefs or taken-for granted understandings about the participants. She draws attention to community organizations as social actors that shape the nature of participation and process of learning.

Here, I focus on four of the most important ways in which the community organisations that I encountered during my research influenced development practices. The first is that they act as development advocates and practitioners for the community. Community organisations are set up for the development of individuals and the community as a whole. The following excerpts from interview data provide evidence of this.

Q: Do you have organisations or associations in this community?

A: We have a lot of community organisations like Imiringi cultural organisation that sensitizes the young ones about our culture, social organisations deals with social activities like sports and other events, Christian organisations too.

Q: How important is it to be a part of community organisations?

A: It is quite important to be a part because it serves as a means of developing yourself and the community in a little way. (Imiringi, Male, 55-60 years, Civil Servant)

The second key role played by community organisations is that they also function as cooperatives that raise money for micro credit for community members. They are a source for financial empowerment.

Q: What is the role of the community organisation?

A: If you are a member, they use to give money for you to do business you balance up at the end of the year. (Imiringi, Male, between 40-45 years, Trader, Married with children)

Q: How important is it to be a part of community organisations?

A: Very important because lets say that the loan you money to buy a bus, after balancing the money, the bus becomes your own. (Imiringi, Male, 40-45 years, Trader, Married with children)

The third role played by community organisations and associations is that they act as advocates for the development rights of their members. They are mediators between government and the people, and as such are a major source of information about political developments. The following quotation clearly demonstrates this:

Q: What is the role of the CDC?

A: The CDC is important because they are the people that look into the affairs about the development of the community and make laws. They plan and they relate between the government and the people of the community. Anything we don't have they go and tell the governments. (Rumuji, Male, 35, Unemployed, Married)

Representation and membership in these organisations is viewed as very important because of the sense of pride that the people feel and economic dividends that they bring to individuals, as demonstrated by the following excerpts.

Q: How important is it to be part of the community organisations and associations?

A: It is very important because they control resources of the community. (Rumuji, Female, 20, Student, Single)

Q: *Are you and your family members' part of any community organisation?*

A: *Yes, because you have to be a part of it. Sometimes something can happen to you and the community will take care and render help to the family. (Ogan Amah, Female, No age offered, Petty Trader, Married with 6 kids)*

Q: *What do you have to do in order to become a member of the community organisation?*

A: *You must come from this community and be sent in by your clan to represent them, and you must have performed certain age grade rights to have qualified. (Rumuji, Female, 32, Nurse, Married with 3 Children)*

They are responsible for a variety of activities that benefit the community. In particular, they provide scholarships to their indigenes, and they give loans and help to bring government dividends to the people. The following excerpts provide evidence of the importance of these organisations in people's lives.

Q: *What is the role and importance of the community organisations and associations?*

A: *They help in training some members of the community, they give scholarships, help bring down the government dividends to the people. They also help in enlightening the people about political developments in and outside the community. (Ididep, 34, Male, Farmer and Civil Servant, Married)*

When asked “*What is the role of the community organisations and associations?*” The CDC was frequently mentioned in many communities. Mostly it stands for Community Development Committee or Council depending on the community. They meet frequently to discuss community development issues (see Figure 5.4).

The CDC, they organise for us, job opportunities, and help us make community laws. They are also very important because it is the highest policy making body and is a pride to your family. (Rumuji 5, Male, petty trader, Married).

This respondent from Rumuji referred to the CDC as the highest policy making body and a pride to the family. From the responses it is evident that any community wide development initiative that does not involve these organisations is not likely to receive the full support of the people. No one wants to run afoul of these organisations because, as one respondent said, they are key stakeholders in the community and control the resources of the community. Other responses included:

“They fight for the interest of the community and they are very important, for me to hear what is happening in Rumuji” (Rumuji, Male, 26, Unemployed, Single)

“Well, the role of the organisation is to attain the development of the community and treat the affair that affects the community positively or negatively” (Imiringi, Male, 32, Civil Servant, Married);

“They represent the community both within and outside especially in government affairs” (Rumuji, Female, 40, Teacher, Married)

“The youth organisation ensure peace and unity in the community. They function as a vigilante group as well” (Amassoma, Male, 45, Meat Seller, Married with children).

The three urban sites in the state capitals studied differed in community organisation from the others. There are a large number of non-indigenes in these capitals because the processes associated with urbanisation have attracted migrants from other places to settle there. As a result of the mixture of people from different backgrounds and cultures, the indigenous culture is not very obvious. These migrants have little sense of belonging in the

places where they reside, but some of them are actively involved in the development of their communities of origin.

FIGURE 5.4: Community Development Meeting



Source: Author

During my research, plenty of local associations and organisations were found to be active, including traditional and kinship institutions, community associations, cooperative, women's groups, welfare associations and religious organizations. These community organisations with varying missions are largely responsible for most of the local development achievements. Government run programs are frequently hampered by management and governance problems, and corruption in a variety of forms. Such projects were mostly uncompleted, broken down, unstaffed or without equipment, while projects by the communities themselves are usually successfully implemented. There are two reasons why this is so. First, the money is often community money and the people can hold the leadership and associations accountable by requesting an auditing of the accounts. The second and most important reason is the sense of responsibility and ownership that people feel with regards to community projects. This has important ramifications for ICT initiatives which are considered in detail in Section 5.5.

The success of community based organisations is seen to be due in part to local decision making and participation. This results in large part from their local roots which comprise a relatively small, homogenous membership linked by kinship, a common

language and ethnic origins. The authority and moral obligation of these organisations is affirmed through shared and stable networks as well as individual prestige that is reinforced by collective traditions and symbols. Although these organisations may lack formal systems of management and structures, they do however command legitimacy among the people and have proven to be effective where externally inspired formal structures have failed. Bromley (1993) suggests that such local institutions are effective because “they permit us to carry on our daily lives with a minimum of repetition and costly negotiation”. These organizations are rooted in culture and tradition, the sources of social norms. “Tradition is not and has never been static, but it survived because of the close fit to the needs, values and interest of people who uphold it” (Uphoff, 1996: ix). Wolff and Wahab (1996) found that government attempts to supersede indigenous organizations in Nigeria usually failed. The indigenous organizations were found to be sustainable because their membership forged strong social and economic links and members recognized and trusted their leaders who were appointed based on age and experience. The experience with traditional organizations suggests that recognized norms, roles and responsibility, based on trust, and resultant collective actions contribute to their sustainability. It also indicates that recognized and accountable leadership, loyal members and consensual processes, as well as informality have contributed to the creation of conducive environments for the institutionalization of such organizations.

While these organisations greatly influence senses of community, they also have constraints that include the fact that although most are explicitly aimed at the development of their communities, the objectives of others is not primarily aimed at development but rather for political, cultural and religious ends. In addition some of them have narrow membership and participation is restricted to certain groups of people. The level of women’s participation in decision making is thus frequently limited, although organizations with an exclusively female membership are active in many of the communities. Table 5.2 presents the most prominent community based organisations and associations in the six communities studied, including their roles and functions.

TABLE 5.2: Community Based Organisations

RESEARCH SITES	ORGANISATION	ROLE AND FUNCTION	MEMBERSHIP
Mkpoku Eyekan	MEDU- Mkpoku Eyekan Development Union	A local part of a much bigger organisation whose aim is to advance the development of their ethnic group. Carry out infrastructural development like roads, renovation of schools.	Any responsible person able to pay the annual dues. Open to men and women but members are mostly men.
	Federated Union of Imiringi Students	It brings students together and support students in the community, gives bursary.	Open to all students in the community.
Imiringi	CDC- Community Development Committee	Handles matters related to community development and work towards community development initiative.	Each clan has as representatives as member.
	Egwolo, Ojatowoma and Ekwerugba Social clubs	Acts as cooperative, give micro credit loans for small businesses.	Open to all that can make useful contributions and support others
	Imringi Cultural Association	Sensitizes the young ones about culture and for social standing	Apply for membership and commit to rules of the org.
Ididep	IYODA – Ididep Youth Development Association	Train members of the community, give scholarships, advocate for government resources, keep people informed about political developments	Responsible young men in the community.
	Mboho Nkaiso Ididep Nkaima	See to community welfare, politically and socially, disciplinary organisation, Women organisation, brings women together, support women and settles conflicts between women, also operates micro credit program from contributions. Men have a similar one called. Ette Ita	Open to women who are willing to play an active part in community activities.
Rumuji	CDC – Committee Development Committee	Protect community interests and advocate for development to the government. They are also responsible for the security of community. They also provide scholarships for indigenes.	Each clan has a representative there who must have completed age grade rites.
Ogan Amah	Asame	Community development activities, offer support to the elders. They advocate for the rights and resources allocation for those their representative groups. e.g the women’s forum for the women.	There is a men’s association and women and youth forum within the Asame.
Amassoma	Mainland Farmers Cooperative	Apply for micro credit as a group, and offer support and help to other farmers.	Open to all local farmers.
	Amassoma Youth Association	They are responsible for community sanitation and also they are the vigilante group.	All young men under the age of 35.

5.3.5 Social Events and Interactions

Social interactions and events are an essential feature of Niger Delta communities, providing a key element in uniting community members. Most social events are communal occasions even when they are also personal events such as marriages and burials. Most representative groups have a role to play. Social events include community events such as conferences that involve community members meeting together at a central location to deliberate and develop plans for community development. Through such gatherings, Mkpoku Eyokan got electricity:

... the most important of the social events are marriage and community conference, because through this conference Mkpoku Eyokan develop their town. For example, we have electricity... it is through this conference that helped Mkopku Eyokan to install electricity. (Mkpoku Eyokan, Male, 22, unemployed, single)

There is an assortment of social events that take place in these communities, such as palm tree harvesting, new yam festivals, fish parties, cultural dances, church crusades, canoe races, masquerade displays and beach parties. All 104 people interviewed confirmed that they had participated in at least one community event or another in the past year; this in itself goes a long way to explain the value placed on social events. One respondent said

“If you don’t participate in these events, they will look at you as a nobody in the community. Only those who participate are recognised” (Rumuji, Male, Petty trader, Married).

Another said

“those that participate are favoured in the community activities”
(Rumuji, Female, 28, Trader, Married).

Social events influence community in three major ways. First, respondents noted that these events serve to unite the community and bring people together. Typical answers to the question “*What are the impacts of these events on the community?*” were as follows:

“They promote peace and love and unity”.

(Rumuji, Male, 74, Community chief and entrepreneur, Married with 9 children)

“I will say, love, uniting the villages together. “

(Imiringi, female, 38, Student, Single)

“The impact is that they make us to be well known and it also brings the community together.” (Imiringi, female, 18, Student, Single)

“These events serve as a means of integration between the indigenes of the community who are outside and at home.”
(Rumuji, Female, 40, Teacher, Married)

Second, social events link outsiders with the community, thereby increasing interactions and networks and injecting new ideas and prospects into the community:

“By coming to attend these events it brings in new ideas and development to the community. Youths in the community, people from far and near come to attend, almost all the sons and daughters of the land”. (Rumuji, Female, 40, Teacher, Married)

Q: *What forms of social events is most valued in this community?*

A: *We have age grade meetings, celebrations and religious festivals*

Q: *What are the impacts of these events on social relations within the community?*

A: *It affords active participation of members in community development* (Port Harcourt, Male, 47, Lawyer, Married).

Social events also serve to enhance community ties that serve as channels for information and resource flows (Tsai and Ghoshal, 1998). It is here that new ICTs have such potential. Through social interactions, community members gain access to other people's resources and widen their access to information. Community ties, increased interactions and building of trust are important products of social interaction in Niger Delta communities, and contribute to what social scientists have referred to as social capital (Bourdieu, 1986; Coleman, 1990; Scoones, 1998; Putnam, 1993, 1995). Both scholars and

policymakers have embraced the idea that we can enhance efforts to create more sustainable communities by increasing the local stock of social capital. Research in Canada and Australia has shown that social capital is a necessary condition for sustainable community development as it enhances linking ties that increase access to resources outside the community (Dale and Newman, 2008). Connectedness, networks, and groups and the nature of relationships are a vital aspect of social capital, and there are many ways in which these are reinforced in the Niger Delta, as through the trading of goods, exchange of information, mutual help, provision of loans, and common celebrations such as prayers, marriages, and funerals.

5.4 LIMITATIONS OF LOCAL CONSTRUCTIONS OF COMMUNITY

This research primarily deals with rural notions of community and some of the highlights from the local constructions of community revealed an ethnic cleavage structure in these communities (See Focus Group Box 5.1). It raises important questions about community as place of origin or place of residence. Such questions include: Why does ethnicity and identifying with community of origin play such an important role in peoples notions of communities? How does the economic and political system in Nigeria support and perpetuate these? What are the implications of this on sustainable community development? I explore these questions in this section.

A question about which community people wanted to see developed was not initially included in the focus group questions, but as the interviews began to reveal that people living in one community had a greater allegiance to their community of origin than to where they were currently residing it was considered important to include this in the focus group discussions. I received the same answers from over 95% of the respondents. Focus Group Box 5:2 which is from the focus group in Uyo where one of the respondents, a youth corps member (Uche) had a difference of opinion that ignited a heated discussion with a 28 year old participant (Jude), who incidentally studied in the United Kingdom and has a BA from a UK University, shpw that ethnic influences still play a strong role.

Focus Group Box 5:2

Uche: *I am from Imo state, but currently live in Uyo so I would like my community here to be developed.*

Jude: *That is not true. Uche is only saying what he thinks is right not what people actually do. People will only be committed to the development of where they think is their community. Why should I be thinking about how to help another person's community, if I hear about a project that will benefit a community and I am asked which community I would like the project to go to, I will say mine. You are saying the right thing should be not what people will do. Most People will say their own place.*

Uche: *But we should do the right thing. How will we change? Ethnic differences are why we don't have sustainable development in Nigeria. Everyone is thinking of their own villages. How will we develop. We need to be detribalised. That will change our mind sets.*

Jude: *I want to build my own community not another person's own.*

When the Niger Delta people speak of community what do they really mean? In the rural communities I studied, communities are made up numerous lineages or 'compounds'. This is referred to by Smith (1996) as ethnic communities and he defines ethnic community as a named human population of alleged common ancestry, shared memories and elements of common culture with a link to a specific territory and a measure of solidarity; a 'nation' as a named human population sharing a historic territory, common myths and historical memories, a mass, public culture, a common economy and common legal rights and duties; and 'nationalism' as an ideological movement for the attainment and maintenance of autonomy, unity and identity on behalf of a population some of whose members deem themselves to constitute an actual or potential 'nation'. Niger Delta communities are not culturally homogeneous. They are pervaded by relations of domination and dependence, based on patriarchal power exercised across difference of gender and generations, lineages and clans, languages and cultures. According to Berman (1998), African ethnic invention emerged through internal struggles over moral economy and political legitimacy tied to the definition of ethnic community's moral ethnicity; and external conflicts over differential access to the resources of modernity and economic accumulation.

Migrants from other areas view themselves as sojourners and even if they have lived in the Niger Delta for several years, the attachment to communities of origin is always present. This is less so with the younger generation where it was observed that these ties are not as strong. This notion of identifying with communities of origin is based on ideas about one's 'roots' and responds to the social, economic and political contexts of the country. It is a source of social and cultural identity. It is key to identity and to political and social action. But what are the real motivations for doing so? Identifying with a community of origin or local government area goes beyond simply emotional, cultural or social obligations and expectations. There are real benefits and constraints with having connections or identifying with your place of origin in the structure of Nigerian society that influences the maintenance of ties with place of origin. For example, political aspirants require active connections to your place of origin by showing that they have identified with their people and contributed in one way or another to the development of their communities or personal development of indigenes. Civil service jobs or government contracts are allocated along ethnic lines. In the Niger Delta, ethnicity matters because of the widespread expectation that politicians will channel patronage resources to members of their own ethnic groups. Nigerian politicians, diligently attend to the maintenance of the ethnic networks of patronage that are the basis of their power. Akinnaso (1994) notes that the first point of contact for any aspiring politician is his local government and community where the accreditation and nomination process begins.

In Nigeria inter-marriage is breaking down conventional ethnic boundaries with religion or possession of a shared language often being a unifying factor. From my research there was evidence of married women switching ethnic affiliations. In Ogan Amah for example, during the focus group one woman said *"Me I am not from this community, they marry me here, so this is now my community. If I die na for here they will bury me."* I also came across a woman in Uyo who says that she is from Nsit Atai Local government area, but her husband is from Nsit Ubium so she now invests in her husband's community because she has ambitions to run as candidate for the state house of assembly under her husband's constituency so she funds development projects in her husband's community to gain the necessary support for the election.

Trager (2001) in her book on Yoruba hometowns in Nigeria also identified ways in which the Nigerian economy and society affect the dynamics of local development and how the activities of individuals and communities are shaped by the broader social and cultural forces and frame the people's perception of their situations. The notion of an 'indigene' has recently taken on strong political undertones in Nigeria. As a reaction to domination of education and employment by a few ethnic groups with powerful organisational skills, Nigeria has developed a quota system in many areas of public life. University entrance, jobs in the civil service and passports are now subject to quotas, with a certain number of places reserved for the 'indigenous' population of particular states and local governments. The factors that shape ethnic cleavage include marriage, political reasons, ethnic identity for purposes of resource allocation and benefits, contracts awarded based on ethnicity, scholarships awarded based on ethnicity and jobs and appointments that are decided along ethnic lines. Even trade and thus credit depends on trust and that in turn depends on religious and ethnic affiliation. In the rural areas, the increasing creation of ethnicity based local governments and the formation of ethnic based community development associations is promoting the solidification of ethnic boundaries.

Identification with communities of origin is determined by two key factors: firstly, the role of the state; and secondly, the broader contexts of economic, socio-political and cultural dynamics. These ethnic cleavages have strong implications for the structure and progress of development in the rural areas.

5.5 LOCAL CONSTRUCTIONS OF SUSTAINABILITY

Investigating local constructions of sustainability required that the people participated in defining what they understood sustainability to be. As Roling and Jiggins (1998) argue '*what is to be sustained*' remains a question that can only be answered by the people involved in every setting. The method used to gather data on sustainability was primarily the nine focus group discussions during which the following key questions were discussed.

- What type of development do you think is important in your community?
- What kind of development is occurring in your community and do you think these developments will meet the needs of your grandchildren and great grandchildren?
- What do you see as threats to sustainable development within your communities?

- If you were given the opportunity to design your ideal community what kind of community would it be?
- What aspects of your community would you like to see preserved for future generations?

In this section I present the main findings on the local constructions of sustainability, focusing on the key components of a sustainable community as defined by the Niger Delta people. It is structured in two parts. The first presents a synthesis of answers to each of the key questions discussed in the focus groups and the second part pulls together the answers and strands of discussion to show an emerging concept of what a sustainable community is as constructed by the people of the Niger Delta.

5.5.1 Defining Sustainability

It was difficult to introduce the idea of sustainable development because it was a concept that most of the participants had heard nothing about and the few that had, did not have any idea what it really meant. Discussions started at a very basic level to define the word ‘sustain’. I also had to explain the WCED definition and global sustainable development strategies while stipulating that the purpose was to get their own interpretations of the concept. This was immensely difficult, and it was evident on many occasions that despite my best efforts these accounts undoubtedly influenced the responses people gave me. After the meanings had been clarified by them, we were able to get into the main issues.

The focus groups held with youths in the urban sites were the most enlightening, because they were able to construct more meaningfully what sustainability and sustainable development mean to them. The youths, for example, defined sustainable development as “consistency and continuity”; “Sustaining policies for a long period of time”; “Conservation for the future”. Sustaining policies for a long period of time is an issue of great importance to Nigerian people because with each government comes new policies; every new government wants to be seen as an initiator of a project or policy initiative. Politicians in Nigeria are unwilling to build upon what their predecessors have initiated. It is their thinking that when credit is awarded for innovative projects, it will always be given to the initiator. It was not surprising therefore that this was one of the first issues raised by the respondents concerning sustainability, as highlighted in Focus Group Box 5:3 which is

an extract from a focus group of young men between the ages of 18-30 in Yenagoa and Focus Group Box 5:4 from Uyo of the same age bracket.

Focus Group Box 5:3

UO: *In view of what we have discussed so far, what does sustainability mean to you?*

Adaobi: *Sustainability is something that will last forever.*

Ugochukwu: *It is about building on previous achievement.*

Prosper: *Sustainability is something that will keep the community growing from generation to generation.*

Peres: *It is setting up goals that are beneficial to both our generation and the future generations.*

Ugochukwu: *I agree with the idea of meeting our present needs, our own development e.g roads, pipeborne water.*

Peres: *Our mentality is also a problem. What we see as development now is not real development, building roads and so on is not development if the people are not developed themselves. Like in the Niger Delta, because of the militancy, they are pouring in money into development, but the people still have the same mind. What we need is human development, that is, intellectual development. We need to try to change orientation, the way people see life in this country.*

Focus Group Box 5:4

UO: *So now that we have defined sustain what does the word sustainability mean to you. Think of it in relation to development.*

Jude: *Something that can be maintained, there is continuity*

Chico: *I agree*

Chucks: *Something that will last*

Sunny: *The ability to keep doing something consistently, a continual process, even though it is slow at least there is progress*

Emeka: *Nothing is constant; nothing is stable, something that has the ability to grow, that has been built on a firm foundation. We need to think about ways and avenues to make thing grow, like policies can be put in place to make it grow*

Emmanuel: *The mentality we have here about sustainability is that, struggle to get government contract, build something and then leave it. Our mentality does not enable us to think and plan for the future, we like living for today. You can't affect the outside without affecting the inside.*

Emeka: *It is not even about policy. Nobody want to start a project that is not be sustainable, but the problem is, for example someone wants to build a project that will last 50 years, but does not develop the capacity that help in sustaining it, how will it last. The capacity of the people in the region needs to grow alongside with the project.*

Uche: *Yes oh, for example when building, for to last 50 to 100 years, you will take into consideration, the kind of building materials you will use, to make sure it will be durable. You must take into account the cost of maintenance as well.*

Sunny: *I think sustainability in that aspect means conservation, conservation for future purpose.*

Uche: *Another thing is, for anything to be sustainable it must yield positive results; it must touch and affect the lives of the masses positively.*

Three important points are evident from these conceptions of sustainability. First, sustainability is about continuity, consistency and long term planning. Second, the people do not plan long term and put in place plans and policies for sustainability; they do not set up long term goals. Third, it is about people, their capacities and orientation, the mentality of the people tends to be a ‘now’ mentality and this has important consequences for development goals and plans and thus also for use of ICTs.

5.5.2 Identifying Sustainable Practices

When asked if current developments and changes taking place in their communities would benefit them and future generations, most of the focus group participants could not answer this question immediately, because they felt that current trends were unsustainable. With further prompting some focus groups in Rumuji, Mkpoku Eyokan and Ogan Amah noted that their local self government and community leadership structure was a positive factor that if preserved would benefit future generations because it had proven effective in running their communities in the past, although the group in Ogan Amah also noted that leaders needed to be educated because most of their leaders were illiterate and could not adequately advocate for the people. Significantly for this research, modern telecommunication was also highlighted as a current development that meets future needs. A young man in Yenagoa thus said *“There didn’t use to be telecommunication in Ogaga in Cross Rivers state, where I am from but now there are many networks and this has created a lot of employment for our people”* (Yenagoa, Male, Early 30s, Music producer, Single). The same young man in Yenagoa also noted that the Universal Basic Education (UBE) program just instituted by the government to provide free primary education is a good development that will benefit future generations. Other than this, they could not offer any current developments that they think meets future needs.

5.5.3 Communities of the Future

What would be an ideal community in the Niger Delta? What types of development are needed in the community for it to be sustainable? In response to these questions, social, educational, intellectual and economic development were highlighted as the developments most desired in their communities. When prompted to clarify what social development meant to them, most responses were similar to this response from Adaobi, a woman from Bayelsa state who referred to it *“as the way people interact with each other for the*

advancement of their communities". Peres (Male) also said *"it is the way we communicate with each other"*.

Education was highly desired. In the rural communities where poverty is high many children could not get further than a primary education and because of this they grow up not having many opportunities. Many people thus migrate to the city centres where they believe that there are better opportunities. In the focus group in Mkpoku Eyekan with older men over the age of 40, education was strongly identified as the development most needed. It is a very poor community where their major source of livelihood is farming.

"We need schools here, our children go to school outside and they don't come back to develop the community. The primary school we have here, the children sit on the floor, their father can buy chair for them which they can take to school to sit down" (Mkpoku Eyekan, Male, Late 50s, PRO in the PTA).

Despite having difficulties in defining exactly what sustainability meant, it was agreed by all participants that an ideal community for the Niger Delta is one that is sustainable. So participants were asked to envisage a community that is sustainable and that their great-grandchildren will be able to continue living there in a sustainable manner. In discussing desired developments for their ideal community, I found that the women, youths and the men had rather different priorities with regards to the kind of developments they desired. The older male focus groups were more interested in physical developments such as roads, building community centres like a town hall, community organization and leadership. A fifty something year old man who is the chief in Mkpoku Eyekan said *"we need roads... yes roads will bring development... if it happens that I am a governor, I will make good roads for the communities."* Another said *"the pump is there, we have to transform the water pumps* (several comments and gesticulations by the other participants in agreement).

In contrast, the youths prioritised human development, capacity building and technological advancement as being most important for sustainability. They observed that technology is the way of the future and recognised that for any community to be

sustainable, they need technological advancement. Below are some of the responses from youths on what their ideal community would be:

My ideal community is where people have an equal opportunity to contribute to the consistent progress and continued growth and development of that community. (Uyo, Male, 28 Youth Corps Member)

..a place where everybody is involved in active participation at all levels. (Rumuji, Male, 27, unemployed, youth leader)

has to do with a community where everyone has a major role to play, infact for example as we are now, I have role to play, like now I have the opportunity to speak and contribute my own ideas to these issues we are discussing, I feel relevant, I am important, my ideas count, that is what a community should be. (Uyo, Female, 20, student)

Is a place where I have a sense of belonging and knowing I have major role to play (Uyo, Female, 21, Student)

Is a place where I can put in what I have to offer, if I know I have a talent, I can express this talent and help the people, everyone is of benefit to each other. (Uyo, Female 25, Cyber café assistant)

A place where values and morals are preserved, where culture is preserved, where relationship as it was in those days is preserved. (Ogan Amah, Female, 31, Hairdresser)

Where everybody could come together and say wow! see what we did, not where one person will say, 'see what I did' or 'see what that man or woman has done for her community' but rather, 'wow see what we did'.(Uyo, Male, 26 , Student)

Is one where we have good roads, constant lights and water supply and a good relationship with one another (Ididep, Female, 28, Seamstress)

Where we have ICT training and security (Uyo, Male, 25, Unemployed)

I would like to see a technology driven community, because the way things are going everything will be about computer it is the way of the future (Uyo, Male, Late 20s, Student)

In summary, key elements of the definition of the youths' ideal community can be summarised as:

- One where everyone has an equal opportunity to participate and contribute
- Where everyone has a major role to play
- Where there can be a preservation of morals, relationships, culture
- Where there is unity among the people
- A technology driven community that is crime free
- Where there is use of ICT with morality with local content.

The youth focus groups were the only ones where there was an extensive discussion on technology and the role it can play for sustainability. In their conceptualisation, technology provides the tools with which the youths augment their abilities to communicate, and can be useful for learning global culture. Communication media have also facilitated the rapid globalization of culture and television programming is instantly available worldwide. Consequently, the youths clearly recognised the changes that communication technology is having on international societies and can envision a scenario where even their communities in the Niger Delta need to get on the information highway or be left behind.

The women's focus group in Ogan Amah reflected greater interest in income generation activities, education for their children and sustaining community values. The most popular answers from the women can be summarised as

- Provide grants and micro credits for businesses and skill acquisition for the youths.
- Adult education and learning.
- Building the capacity of the people to defend their rights.
- Provide a forum to engage youths and women in problem solving.
- Provide for the welfare of disadvantaged people like orphans and widows and the elderly.

Other views on a sustainable community included a desire for infrastructural and capacity development as reflected in the excerpts below:

I would like to see a community with constant electricity, pipe borne water, fishes, agricultural activities and growth (Yenagoa, 32, Male, civil servant, Single)

A sustainable community is one with constant electricity, with equal rights, good roads and social amenities (Mkpoku Eyokan, Male, 47, Farmer, Married)

I would like to see a community where there is equity, justice and peace with people of good mental thinking. Mentality is a great is a great quality that can enhance development (Yenagoa, Male, 29, unemployed.)

People knowing what to think and how to produce materials that will help us in the future. That is the inhabitants of the community should be productive. A community where good education and skills acquisition will be attained (Ogan Amah 2, Male , 29, unemployed.)

When asked what aspects of their community they would like to see preserved for future generations, most people responded in terms of community spirit and unity, community organizations, culture and community values. However some felt that culture

could be a hindrance to development and would like these aspects of their culture to be done away with. A female respondent with a British education said

“Culture is important to me. Even if I live in America, I would like my children, to know my culture. I want to preserve my culture because I love it. I want it to continue for generations. Not the negative parts like Idol worship, but language, colourful traditions like weddings, coronations etc.” (Uyo, Female, 28, Fresh graduate, seeking employment)

5.5.4 Threats to Sustainability

The question *“What do you see as threats to sustainable development within your communities?”* was framed to help people identify unsustainable patterns in their own communities. Getting the people to be reflective and evaluate their actions and circumstances was not an easy task because people are more focused on daily survival and meeting their basic needs. When asked to ponder on current activities that may hinder the development of healthy communities for their grandchildren or great-grandchildren, this put the issue in perspective for them. They were able to identify certain practices that are unsustainable. An educated female respondent from Ogan Amah who teaches in the local secondary school thus said

“our leaders are illiterate so when the oil companies that are operating here like Shell send for the leaders to negotiate how they can help us --- like in giving our youths scholarship, because they cannot talk, they sometimes send for some our people that are living in Lagos, and Port Harcourt to come and speak for them. When those ones come they will take all the money and run away or they will offer the scholarship or jobs to people that don't live here, outsiders based on agreement that they will give them a percentage of the money or their salary. Because they know they cannot get such deals with the indigenes living here. So they take the money outside the community and our community remain poor and underdeveloped.”

Corrupt leadership was also cited in four other communities as a major threat to sustainable development of communities, where leaders collect bribes from local government authorities to turn a blind eye to contractors who receive government money for rural development projects like road works, electrification, boreholes for pipe borne water and do not complete the jobs. This brought to the fore the issue of corruption and how it was a canker worm eating into the fabric of sustainable development for their communities. This position is supported by Aluko (2002) who argues that corruption now appears to be a permanent feature of the Nigerian society. It has become institutionalized and entrenched in the culture and the value-system of the Nigerian people; it is now more of a norm than an aberration. He also notes the intergenerational nature of corruption in Nigeria and suggests that the younger generation grow up in it and live with it all their lives; the older generation are not left out as they are resocialised and conform to it. Succeeding generations then see it as part and parcel of the social order and the normative system. Dike (2004) also notes that although corruption is endemic in all governments and is a global phenomenon that is not peculiar to only Nigeria, corruption is a pandemic in Nigeria; the leaders as well as the followers are corrupt. This raises the issue of civic participation in governance and education which is explored in more detail later in this chapter. The ability of the citizens to access official information, such as budgets and government contracts, is essential for combating corruption. This is an area where ICTs are currently being utilised to enable transparency and accountability in governance (see for example Backus, 2001; Ndou, 2004).

Also highlighted in Ogan Amah was the environmental degradation of their communities, as an elderly woman in her late 60s said:

“I remember before, before, plenty fish dey for river when our people go, go fish dem go catch plenty fish so tey, dem go dey share am with all dem sisters and brothers wey live around, but now fish don finish for water. Even esam wey dey everywhere before, no dey again. ---- na petrol wey dem they put for de water don spoil de water e don kill all de fish finish, nothing dey wey people go fit carry go sell for market.”

Translation - I remember many years ago, we had a lot of fishes in the river, when the fishermen went fishing they came back with a

lot of fishes and shared with their neighbour and the rest, they would sell. But now since Shell runs pipelines through our rivers, the petrol and chemicals have destroyed a lot fishes, so our people cannot earn income by selling fishes again, even snails that used to be all over the place is no longer because they have destroyed our soil.

The people have to cope with the environmental impacts of a poorly regulated oil industry. Every year the network of pipelines that crisscross the region's maze of creeks and mangrove swamps records hundreds of oil spills that often spoil farmland and waterways (UNDP, 2006). Multinational oil companies have continued the environmentally harmful practice of flaring excess natural gas despite repeated promises to phase it out. Many respondents complained that these and other harmful practices have led to health problems and made it harder for them to earn a living off the land. As a result local livelihoods are disappearing and people have to migrate to major towns and cities in order to earn an income, leaving many of these communities desolate. In summary the main threats to sustainable development were seen by respondents as being:

- Lack of basic education for their children
- Environmental degradation from oil exploration in the region
- Local leadership and elders are illiterate
- Corruption
- Current youth direction towards militant activities
- Harmful cultural practices

5.6 EMERGENT THEMES ON SUSTAINABILITY

Five key themes emerged from local constructions on sustainability: equity and participation; community cohesion and collective action; preservation of indigenous customs; capacity building and human development and democratic and transparent governance.

5.6.1 Equity and Participation

Advocates of sustainable development include the ideals of equity (the lessening of inequality) and participation as important elements in the transition to social sustainability

(Taylor, 2003; McKenzie, 2004). The literature and experience has shown that the imperative transition to sustainable development cannot be made without the full support of the community. Lyons *et al.* (2001: 1237) thus define sustainable communities as "...the ability acquired and held by communities over time to initiate, and control development thus enabling communities to participate more effectively in their own destiny."

During the focus group discussions about constructions of sustainable community, the subject of equity and participation frequently came up. The evidence as presented above, however, shows that in the Niger Delta there are indeed inequalities in the communities. While there may be representative groups and associations for women, youths, and farmers that advocate for them, decisions regarding community problems are actually decided by a privileged few. It is their interpretation of local custom and laws that are implemented. Their decisions are rarely questioned unless in instances of obvious corruption and misappropriation of community resources. There are also gender based inequalities because these communities are patriarchal societies where the men are the decision-makers and hold positions of power and prestige, and have the power to define reality and community life. The women are presented with an interpretation of the world made by men, and a concept of the world defined by men's actions.

Inequalities were not only gender-based, but also with the young men, who are not considered to be able to contribute anything until they have proved to the community that they are men, through coming of age rites. They are left out of decision making and instead are treated as foot soldiers for the communities, responsible for community security and fighters during ethnic conflicts or community protests.

Addressing these issues does raise some questions about being 'sustainable' because in one sense it is about continuing to maintain these traditions, yet some argue that these are not actually sustainable. It also about who is defining what equity means. The rhetoric and abstract principles of community participation and equity cannot easily be translated into practice in the Niger Delta.

5.6.2 Community Cohesion and Collective Action

Local participation is an important element for the successful governance of collective action (Uphoff, 2000; Hobley, 1996). It was evident from the responses, that most of the people of the Niger Delta do share a common vision and a strong sense of belonging and attachment to their communities, especially their community of origin. The collective action literature essentially assumes cooperation (or its lack) to be a voluntary act: people can make free choices about whether or not to cooperate, based on their economic interests and the benefits they derive from cooperation. This is not the case with Niger Delta communities. People are made to cooperate or be ostracized in the community. There is pressure from leadership and family structure on the people to cooperate on community initiatives. For example the monthly sanitation project which is implemented across the country and in some communities is not voluntary and there are sanctions and fines if people do not cooperate and these also extend to their family members. The elite in the community may threaten to withhold employment or credit from those who are less privileged if they fail to cooperate. They exercise power over the economic and social life of the people. Similarly, using their power, spouses or community members may threaten people with reputation loss or even with violence if they break the rules of collective functioning. In other words, cooperation may *appear* to exist despite socio-economic inequalities and a conflict of interest between different sections of the community, because it is imposed by some on others through the exercise of social and/or economic power. Here people might follow the rules out of coercion rather than consent, even when their costs from cooperation outweigh their benefits. Sanctions against those who break the rules (including ones such as public reprimand) are often a part of the normal repertoire of rules in institutions governing the local groups (see for example McKean, 1986; Baland and Platteau, 1996). But the difference here lies in the unequal and asymmetrical ways in which these penalties might be applied to particular sections of the population, predicated on the power underlying gender relations. Often such sanctions need not even be applied explicitly; they may merely loom large as an unspoken threat, especially in gender relations within the family.

The literature largely homogenizes the term ‘community’ without addressing the differences and dynamics within this construct (Gujit and Shah, 1998). This mythical notion of community cohesion does not take into consideration how power is adopted and

manifested within the community (Cooke and Kothari, 2001). Such a conventional notion of community assumes the realities of ‘community life’ (Cleaver, 2001).

5.6.3 Preservation of Indigenous Customs

Any community based initiative that does not celebrate indigenous customs and traditions is not likely to receive the needed support from communities in the Niger Delta to assure success. As the interviews and focus groups conducted in this research have shown, the preservation of these customs is vitally important to the citizens of the Niger Delta. Their sense of identity, community norms and societal values all emerge from these customs. It is what identifies them as a people, it is the bonding glue that holds the community together and gives the people a sense of pride. It is what makes them distinct. Take indigenous customs away and the very fabric that holds the community together disintegrates. The people are extremely passionate about the traditions and customs that have been handed down to them from generations and are willing to defend and protect them. This defines the vibrancy of communal life, including cultural traditions and local distinctiveness, voluntary associations, mutual aid and local knowledge. Dobson (1999) notes that it is this conservation of local cultures and communities, along with equity and a third ideal of participation, which can broadly speaking be said to make for social sustainability.

5.6.4 Capacity Building and Human Development

Capacity building and human development were also identified by the Niger Delta people as a key element for sustainable communities. They highlighted the fact that any sustainability initiative is sure to fail unless the people are empowered to ensure its success. In fact they noted that one cannot even begin to talk about sustainability until the people know what it is about and how it would benefit them and future generations. The focus groups usually got off to a slow start because people were not willing to be reflective about what this means to them. Although initial responses had to do with infrastructural development and basic survival needs, as they began to be more reflective, issues such as education, capacity building, skills acquisition, social reorientation began to emerge as some of the key elements for sustainable communities. One respondent said

“Roads can spoil, buildings collapse, but whatever handwork a man has, that can provide for him and his family and can help

rebuild the village again” (Mkpoku Eyekan , Male, 37, Carpenter, Married).

This was also an area where the youths were most vocal, because over 70% of the youths interviewed and involved in the focus groups were unemployed or seeking opportunity for further education. The Rio Earth Summit in 1992 recognized capacity-building as one of the means of implementation for Agenda 21. Thus Chapter 37 of Agenda 21 gives particular attention to national mechanisms and international cooperation for capacity-building in developing countries. UNEP (2006) describe capacity building as building abilities, relationships and values that will enable organizations, groups and individuals to improve their performance and achieve their development objectives. Capacity building was also described as initiating and sustaining a process of individual and organizational change that can equally refer to change within a state, civil society or the private sector, as well as a change in processes that enhance cooperation between different groups of society.

Capacity building covers many different dimensions including building awareness, building analytical capacity and building decision-making capacity, as well as different targets: human capacities and institutional capacities. In the Niger Delta the people identified building awareness on sustainable development as vitally important and this should include building the collective capacity of the people, by strengthening individuals and institutions in the community to utilise their structures and mobilize for collective action. Respondents noted that the starting point should be knowledge development and education. They also pointed out that skills acquisition should be part of capacity building, because when people have skills for income generation and can meet their daily survival needs then they can turn their minds towards a more sustainable future.

5.6.5 Democracy and Transparent Governance

Nigeria is often viewed as a democratic state, albeit a fragile one (Lubeck *et al.*, 2007; Apter, 1999). However, the realities on the ground and among the people present a contrary opinion. The development of the region is greatly threatened by corrupt leadership and the impoverishment of the people by leaders who claim to be elected by the people yet pursue personal gain instead of community development.

An emergent feature of Nigerian politics is the phenomenon of godfatherism. Ibrahim (2007) defines political godfathers in Nigeria as men who have the power personally to determine both who gets nominated to contest elections and who wins in a state. As a result of the corruption of the electoral process and governmental structures, electoral politics and state power, elected officials are focused on satisfying the self-regarding interests of the dominant political mentors otherwise known as ‘political godfathers’. Lubeck *et al.* (2007: 2) state that the “Nigerian democracy remains fragile, dominated by an oligarchy of “godfathers,” compromised by staggering poverty, and divided by religious, ethnic and regional conflicts”. Ogundiya (2009: 286) defines godfatherism in Nigeria as “an ideology which is constructed on the belief that certain individuals possess considerable means to unilaterally determine who gets party ticket to run for an election and who wins in an electoral contest”. These Godfathers use their wealth to secure party nomination for candidates of their choice, sponsor their election, and manipulate the electoral process with the expectation that they will siphon government resources for them. One female entrepreneur in her 40s had this to say on the issue of corruption:

“Can we really talk about sustainable development in Nigeria with the kind of political system we have? For example the local government chairman was not elected by the people, they claim he won the election, but that is because the political fathers have bought the police and they hijacked the ballot boxes and filled them in at a secret place. So when the new local government chairman comes in, he is not looking at how he can help the people but how to give returns to his political father. They don’t care about development all they care about is lining their pockets.”

A young unemployed man, aged 27, likewise said *“We don’t even know how they are spending our money, we don’t know what they are doing yet people are suffering.”* And a young lady even said *“I don’t even know who the local government chairman in Uyo is and I live in Uyo.”* The people cannot determine how their state and local governments are making use of public revenues. Transparency in governance is required for the citizens of the Delta, if the dream of a sustainable future for the region is to be

realised. The ability of the citizens to access official information, such as budgets and government contracts, is essential for combating corruption.

5.7 CONCLUSIONS: IMPLICATIONS FOR ICT ADOPTION

The preceding sections have provided an understanding of the social context of communities in the Niger Delta based on my interviews and focus groups. I now turn to discussions on the implication of these on technology adoption and impact focusing on how the duality of structure (Giddens, 1984) may influence ICT adoption and how ICTs may in turn affect the social structures of communities. Mason and Hacker (2003) argue that society does not exist as an entity independent of those who comprise it, but rather it is created, altered and maintained by the human communication that occurs within it. Giddens (1984) conceptualises a social system as consisting of three elements: structures, systems and structuration (Table 5.3).

TABLE 5.3: Conceptualisation of a Social System

STRUCTURE(S)	SYSTEMS(S)	STRUCTURATION
Rules and resources organised as properties of social systems	Reproduced relations between actors or collectives, organized as regular social practices	Conditions governing the continuity of structures and therefore the reproduction of social systems.

Source: Adapted from Giddens, 1984

Structuration theory (Giddens, 1984) is about the evolution of social structure through the ongoing interaction of people with one another and the social institutions of which they are a part. Giddens offers insight into the ways agents' communications create social systems and are bound by them. Agents act according to rules in order to achieve their goals and these rules are created through social interaction and can serve to constrain the behaviours of agents in the community. Giddens presents three dimensions in the duality of structure concerned with systems of meaning, forms of power relations, and sets of norms. In structuration theory, human action and structure in the mind are composed of elements of each of these dimensions. Although Giddens' arguments in the 1980s did not specifically focus on technology, technology can be viewed as a potential contributor to the process of structuring human interaction. Scholars have applied structuration theory to information systems research for years (see for example, Orlikowski, 1992; Walsham,

1993; Rose, 1999, Poole and DeSanctis, 2004; Orlikowski, 2000) and others have extended structuration models to explore the mutual influence of technology and social processes (DeSanctis and Poole, 1994; Poole and DeSanctis, 1990). A number of studies have also argued that a structuration perspective on technology may have considerable analytic advantages in explaining the consequences associated with the use of information technologies (Sproull and Goodman, 1990; Weick, 1990; Roberts and Grabowski, 1995).

I draw on two themes in the application of structuration theory to technology that are particularly relevant for this research. The first is that social structures are reproduced and reinforced through communications and interactions between agents that influence the actions of agents and these actions in turn reinforce those structures. The second is that technology has its own embedded structures (Walsham and Han, 1991, Orlikowski, 1992, Walsham, 1993, DeSanctis and Poole, 1994) and also has structuring properties that have the ability to introduce new structures and modify social structures in the wider context in which they are introduced. Weick (1990: 22-23) similarly notes that communication technologies “are both a cause and consequence of structure.

Technology transfer from one society to another involves the importing of that technology into an ‘alien’ cultural context where its value may not be received and understood as it was in the original host culture (Walsham, 2001). Thus, the introduction of ICTs in the Niger Delta is likely to confront issues of conflicting values and attitudes. Orlikowski (1992: 410) agrees with this notion and states that “Human agents build into technology certain interpretive schemes (rules reflecting knowledge of the work being automated), certain facilities (resources to accomplish that work), and certain norms (rules that define the institutionally sanctioned way of executing that work).” ICTs embody systems of meaning, provide resources, encapsulate norms and so are deeply involved in the processes that link action and structure (Walsham, 2001). Thus, ICTs are drawn on to provide meaning, to exercise power, and to legitimise actions. They are therefore deeply involved in the duality of structure.

Buttressing this point, DeSanctis and Poole (1994) note that members of a group adapt rules and resources which they perceive to be necessary to accomplish their goals. Rules are defined guides for actions, and resources are all the things people bring into

interactions, which include dispositions, abilities, knowledge and technologies such as ICT. Mason and Hacker (2003) add that when using ICTs, users appropriate a society's rules and resources, and they utilize the technology in accordance with them. This means that people will use and adopt ICTs in ways that work to increase their resources and enhance their communicative practice and interaction patterns.

The conditions under which ICTs are implemented in communities will have a major bearing on the outcome and success of such an initiative. Against this background the implementation of ICTs for community development requires an understanding of the nature and types of interactions that take place within a given setting and how the information system is used to appropriate societal rules and resources. My research explores the sustainability of communities, so understanding how the introduction of ICTs can affect social structures is critically important and raises questions about whether ICTs will introduce structures that are alien to these communities and therefore may not be sustainable in the long term or whether ICTs can be deployed to support and enhance existing structures. The findings presented in this chapter indicate that social structures provide an overarching, framing context within which Niger Delta people make choices. A major challenge confronting local governance and community development programs in the Niger Delta lies in the recognition that a variety of social forces like community based organisations, chieftaincy institutions, social welfare groups, local entrepreneurship influence the normative and practical aspects upon which communities' values are based. ICT for development initiatives in the Niger Delta, therefore need to be nurtured within the framework of existing values and institutions. Beliefs, value system and social responses of individuals and groups have an influence on the adoption of ICT (Checchi *et al.*, 2002).

REFLECTIONS – Preliminary Investigations

The preceding chapter has focused attention on the the local cultures in terms that highlight human agency, subjective perceptions and different knowledge systems. The themes that emerged from the preliminary investigations include:

- The nature of communities as conceived by research participants.
- The strength of social norms that influenced people's actions.
- The overarching influence of culture in the people's way of life.
- The lack of interest and understanding of the global concerns with sustainability.
- The wide gap between the rhetoric in the literature and the realities on ground.

These ideas led me back to revisit the literature on the emerging key concepts that could explain the phenomena I was discovering in the field. I started by exploring the literature on social capital focusing on the works of Putnam (1995; 2000); Coleman, (1988) and Bourdieu (1985) which I have documented a concise analysis of its relevance to my research in Chapter 2, Section 2.3.2. I also attempted to analyse the preliminary data against the social capital framework and make connections between social capital and social sustainability. I equally found that I could not use the social capital framework as an actionable concept on its own for my research. I explored other concepts like social structure and agency, the grounded theory approach which would prove useful in representing the multiple realities encountered in my research sites. I found Giddens (1984) particularly useful in understanding the social structure of communities and how this influenced individual action.

The importance placed on cultural traditions and consequently on local leadership also led me to explore the role of culture in development. I found that there is already a wide literature on the role of culture in development discourses and it became a broad underlying concept for my research (see section 2.2.1) which was a foundation for designing the research methodology and informed the choice of grounded theory as an approach. I refined the conceptual framework accordingly to incorporate these new concepts and developed an investigative framework for the ethnographic study.

This chapter provided a glimpse into the social structure of communities in the Niger Delta and highlighted the need to adopt a holistic approach in ICT for development initiatives by incorporating the structures that exist in communities before designing solutions for these communities. In the next chapter I build on these findings and explore further the social networks and local information systems and present an in-depth insight into devices and connecting media that make up the communicative ecology of the Niger Delta. Based on the insight gained from Giddens' structuration theory (see Section 2.4.3 and 5.7), I explore the interplay between the social context and information systems. I place human actions and social structure rather than the technology at the centre of the analysis and emphasize the interdependencies between technology and the social context (Orlikowki, 2000; Avgerou, 2001). Understanding the existing system of interactions and communication can provide an insight into how ICTs may affect existing social structures.

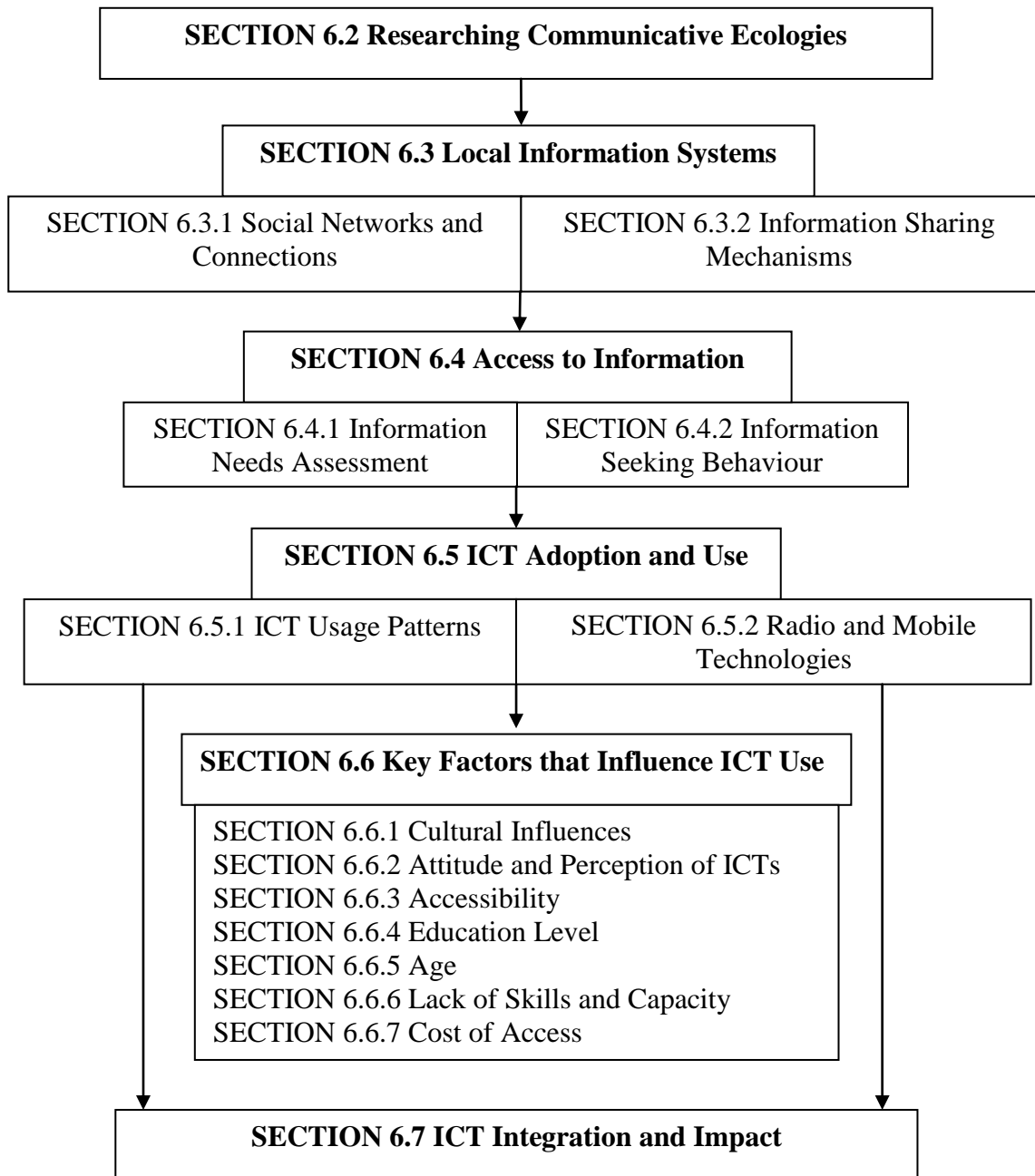
Chapter 6: Communicative Ecologies of Niger Delta Communities

6.1 INTRODUCTION

ICTs are about information, communication and the technologies that enable these (Unwin, 2009; Weigel and Waldburger, 2004). This chapter therefore focuses on these concepts and explores why, what and how information is exchanged in these communities; it investigates information needs and identifies communication channels for information exchange. I also explore the technologies, identifying how and which ICT media are currently being used and why. This is followed by an analysis of factors that influence ICT use with a view to identifying the most appropriate technologies or blend of technologies for Niger Delta communities. A schematic representation of the Chapter overview is depicted in Figure 6.1

This phase of the field research was conducted in Akwa Ibom and Bayelsa states. Four communities were studied, using participant observation, field notes and in-depth interviews. It spanned four months, a month in each community. Fifty-five individual participants were interviewed at least once; 25 were interviewed two times. In addition to the 80 interview incidents, 72 people were interviewed separately strictly on their ICT usage patterns. Three key methods were used to collect data in the ethnographic study: participant observation; field notes and in-depth interviews. The observations included formal events like community meetings, political gatherings, traditional council meetings, and decision-making processes as well as informal events like casual conversations, socialising, and routine work. Social events such as celebrations, cultural gatherings, street events and private spaces were also observed. These observations were documented in detailed field notes for subsequent analysis. Field notes were the second primary sources of data and they contained detailed descriptions and explanations of observations. There were also seven group interviews conducted during the course of the ethnography. The group interviews comprised of between 3 – 5 people who were purposively selected to ensure representativeness (see Section 3.4.2.1 - 3.4.2.3 for more details on the data collection strategies).

FIGURE 6.1: Chapter Overview



6.2 RESEARCHING COMMUNICATIVE ECOLOGIES

The term ‘ecology of communication’ was first coined by Altheide in the 1990s (Altheide, 1994) and has been further developed and applied by Tacchi *et al.*, (2003) as ‘communicative ecology’ which they defined as the “processes that involve a mix of media, organised in specific ways, through which people connect with their social networks” (Tacchi *et al.*, 2003:17). This refers to all the human and technological elements through which people become informed. Although the ‘media’, plays an important role, numerous actors, both individual and institutional also contribute to the communicative ecology by creating, storing, disseminating, interpreting, and consuming information.

This holistic approach recognises the importance of inter-relationships between different communication methods and between different social dimensions (Hearn and Pace, 2006). Foth (2006) identifies three layers in a communicative ecology: a technical layer that consists of the devices and connecting media that makes communication possible; a social layer which consists of other people and modes of organising people in a social way (including social networks and community organisations); and a discursive layer which is the content, that is, the themes that defines the narratives of the communicative ecologies. Similarly Altheide (1994) refers to the layers as three dimensions to the ecology of communication: (1) an information technology; (2) a communication format; and (3) a social activity.

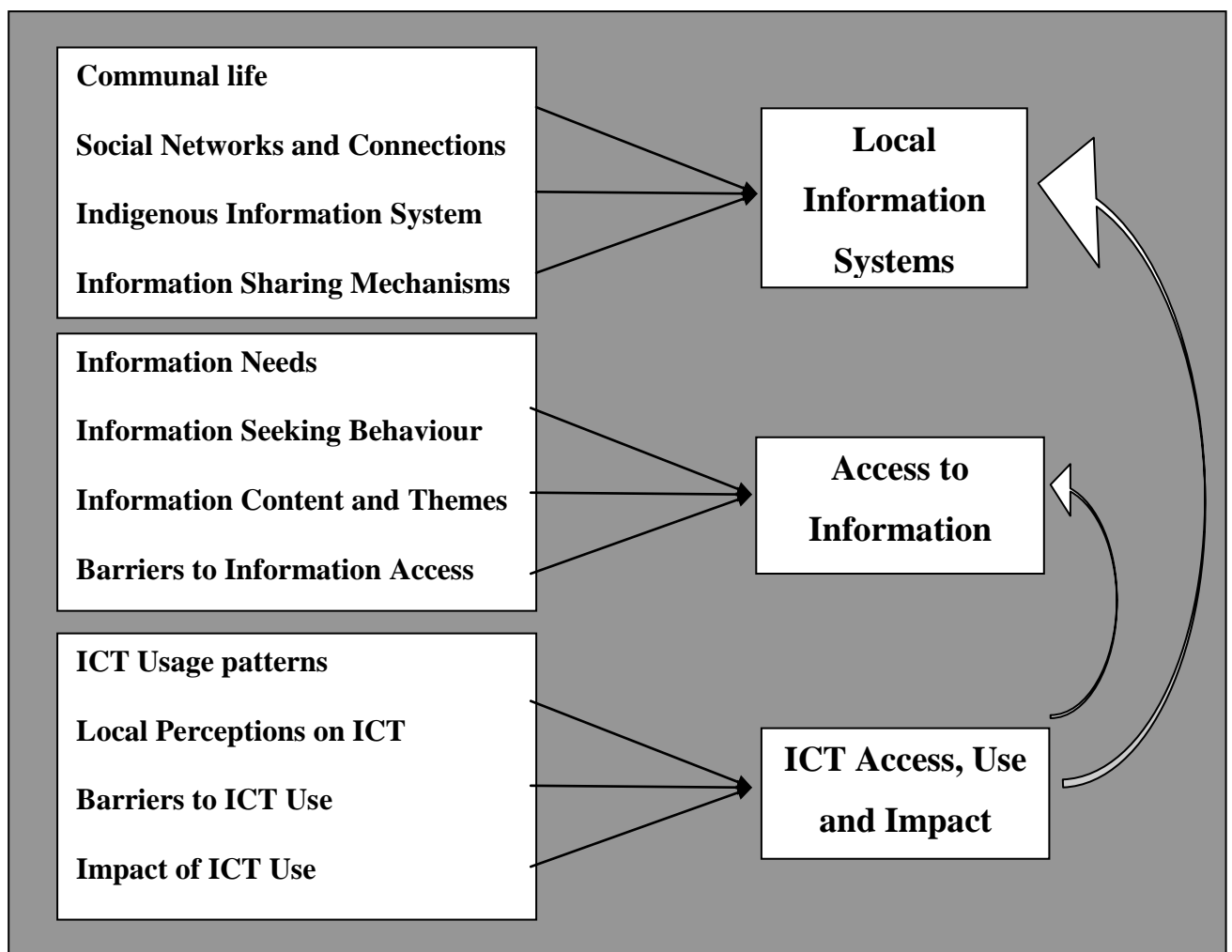
This chapter is structured along the same lines in three main parts. First, it presents the local information system of these communities, including social networks and information sharing mechanisms; second, it explores access to information, including information needs, information seeking behaviour and information content and themes; and third, it explores ICT use and adoption in these communities, including impacts and barriers to ICT use.

To supply technologies or training in how to use them, without taking into account how they might fit into existing ‘communicative ecologies’, is not enough to ensure ‘effective’ use. Through this approach we can ask how new ICTs such as the internet and mobile technologies articulate with more traditional ICTs such as radio and television; how do different media serve different purposes, and how do they combine in people’s everyday

lives? The framework for this analysis in communicative ecology is outlined in Figure 6.1. I should note here that this framework was developed as the research evolved and the themes emerged.

Based on the emergent themes from the empirical data, the concepts have been classified into three broad categories based on: causal relationships (local information systems), contextual factors or intervening conditions (access to information), and actions and consequence of the previous two on ICT use. This chapter is structured along these three broad themes.

FIGURE 6.2: Framework for Communicative Ecology



Source: Author

6.3 LOCAL INFORMATION SYSTEMS

In this section I explore community life as it affects communication and information exchange, focusing on the social networks and connections of community members and the role these play in the people's ways of life. It focuses particularly on the information sharing mechanics and the societal norms that affect communication and access to information.

Gilchrist (2009) talks about the role that networks and connections play in communities. He states that networks serve an important function in society, and the patterns of interactions and connections are strongly related to what is generally understood by the term 'community'. This has very specific implications for community development. They are an effective means of organisation that not only rely on connections but also on relationships that are sustained through interactions and reciprocal exchanges between individuals. Interpersonal relationships within communities need to be given significant focus to ensure that they are developed and maintained in ways that contribute to development outcomes of empowerment, cohesion and capacity building. Networking is about maintaining a web of relationships that can support a useful and empowering flow of information and influence (Gilchrist, 2009). When studying ICT use in everyday life from the perspective of social uses of the technology, it is evident that their utilisation is embedded in an individual's social relations, so the social networks of people exchanging information play a key role in how technology is used and which technology is used. This section explores these interactions and connections.

6.3.1 Social Networks and Connections

Social life in the Niger Delta communities where my field research was undertaken is shaped by three major aspects: the conventional face-to-face interaction, the peoples' interest in participating in communal issues, and the ways and channels for information exchange. This network of connections creates the rules of reciprocity, epitomised by membership in community organisations which serve as platforms where people exchange experiences, stories and every kind of information that is of villagers' interest. Communal activities provide the platform for information and knowledge exchange. Communal life is characterised by a strong social fabric where almost everybody knows one another, not only within the community but also in a relatively wide surrounding area. People travel for

miles either by walking or by ‘*Okada*’ (commercial motorcycle riders) to visit friends (see Figure 6.3), to participate in local celebrations, to work together, and, probably the most relevant point for this study, to ask for and give information.

FIGURE 6.3: *Okada* Riders



Source: Author

Most people have an extended network of contacts. One respondent said, “*I know almost everybody, not only in Anua but also in other communities in this state*” (Anua, Male, 27, Barber). He values meeting people “*because, of course, you learn a lot*”. He believes that there is benefit from constant interactions with other members of the community. As with other people in Anua, he prefers personal encounters for non-urgent issues, even if he has to take a trip: “*Sometimes there are things that you have to get done face-to-face; it is not only matter of privacy but for the nature of the topics*” (*face-to-face interaction*). When asked how he gets information about market prices, his answer was a resounding “*people*” (*face-to-face interaction*). Similarly, another respondent travels to keep in touch with people from the surrounding villages because he wants to “*increase contacts*”.

Although respondents had extensive connections outside their communities, when asked who they interact with on a daily basis, responses included “*my friend in the community*”; “*my neighbours and my customers*”; “*my elder brother and my aunty*”; “*my fellow chiefs*”; “*friends and colleagues at work*”; “*parents, relatives and neighbours*”. Daily interactions and connections are very much limited to other community members.

In exploring the concept of social networks and connections, I focused on three main criteria: the availability of close kin; the level of involvement of family, friends and other community members; and the level of interaction with people outside the community and community groups. I found that in all four communities, there was a high level of connection on each of these three levels. The people have very close connections to family, with strong family ties, and their actions are greatly influenced by their interaction with family members. When I asked during the course of the interviews ‘who are you connected to in this community that you interact with on a daily and regular basis?’ responses included ‘*My friends and husband*’; ‘*Friends and colleagues at work*’; ‘*Parents, relatives and neighbours*’; ‘*Brothers and friends*’ ‘*Family*’; ‘*My sister, aunty and brother*’. Every single person interviewed interacted with family members on a daily basis.

Types of information exchanged are about community events, happenings in the community, community infrastructural developments, business, financial challenges and politics, personal and family issues. They also relate regularly with community leaders, and civil servants have connections and interactions with work colleagues in state government offices. It was interesting to find that every family I interviewed had relatives living in cities outside the community with whom they communicated on a very regular basis by phone. Their social networks extend beyond their communities and represent a vital link to information from outside.

My research also provided evidence that certain groups of people have more access to information than others. In response to the question ‘*which groups of people have the most interactions and connections in this community and what do they use them for?*’ participants unanimously noted that young men have the widest network of connections within the community and that they are key information carriers within the community. Some responses included:

“Youths have the most connections. They use their connections to help the community in that they secure the village if there is alarm a robbery operation in the neighbouring village, they are the ones that stand guard”. (Mbiaya Uruan, Male, 29, Clerical officer in Local Govt)

“they are mostly well informed and they pass information around sometimes” (Anua, Male, 25, Clothes retailer)

“All the young people, mostly their connections is used to spread news in the community” (Mbiaya Uruan, Female, 41, Petty trader)

Youths also use mobile phones (GSM) to pass around information as the following responses show. The indication here also is that youths have more access to phones and are more able to use them appropriately.

“The youths, they easily communicate using GSM. They help in repairing our NEPA light when it has fault”. (Anua, Female, 29, Unemployed)

“Youths, they easily use GSM to pass information”. (Mobile phones) (Amasoma, Male, 26, Unemployed)

As a result of the wider network and connections that the youths have, they are actively involved in community development and maintenance activities. This shows the important link between a wide social network and interactions and access to information and the impact of these on community development outcomes. ‘Youth’ here refers to young men between the ages of 18 and 35. Young women are not generally referred to as the ‘youths’ in the Niger Delta because of the socially ascribed roles for women in these communities, where it is not considered appropriate for women to be so vocal. The following responses show the important role played by youths in the community.

“Youths use to sanitize the environment and they also relay information to the head of the village.” (Mbiaya Uruan, Male, 35, Chemist)

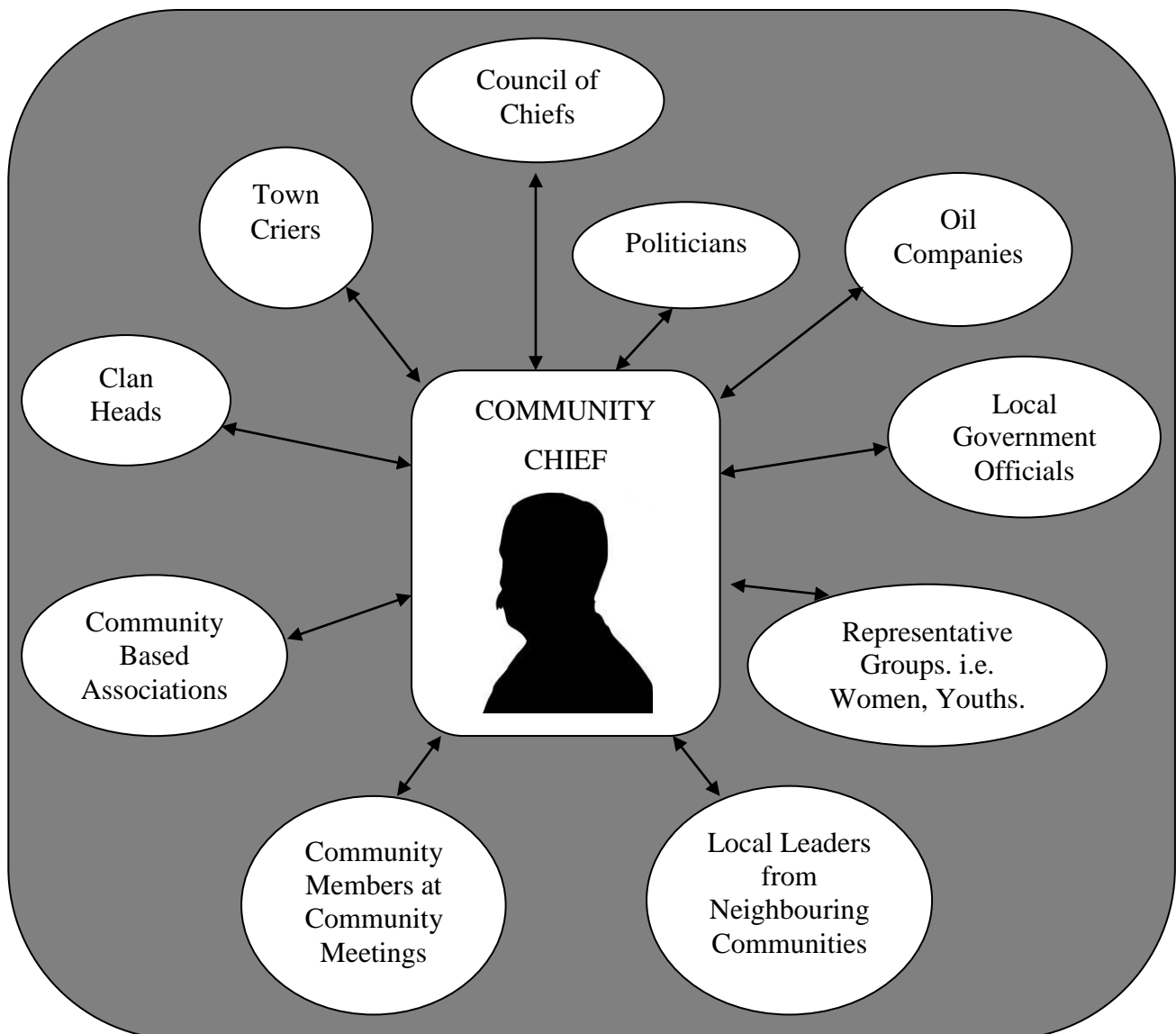
“Club people, youths. we can plan how the village can be developed and share ideas about what they see happening outside the community.” (Anua, Male, 24, Barber,)

The youths have the most access to information and transmit information, more than any other demographic group because they are the most mobile group with wide social networks and they interact daily with all sorts of people. This is also predicated on the fact that it is expected for them to circulate and interact more and act as information carriers. They also act as vigilantes for their communities, and are members of the local association for young men. Also the commercial motor cycle riders are mostly young men and as I explore in the next section they play an important role in the local information systems. A typical day for a young man who is not employed, as outlined by a young man in Anua, involves a lot of movement during the day. He could start his day by having lunch at a local canteen, interact with the people there, hang out with friends in their trading posts and at call centres (which are popular hangouts), go to the park where *Okada* riders hang out because he has to use them at some point during his day, visit the village head to hear whether there is any information for the boys, possibly meet with his vigilante group and plan their activities for the night, and if he is involved in political activism, go for secret meetings in the night. If there is a premier league football match he would make a stop by the viewing centre for a couple of hours where other locals are gathered. So in the course of the day he has interacted with traders, market people, leadership, *Okada* riders, vigilante groups and other community members. During this time he is passing on any information he has picked up to other people. If the young man is an *Okada* rider, these interactions and networks are multiplied and extend outside the community to other communities and the state capital to which they go at least once a day (see Figure 6.3).

In Figures 6.4 - 6.6, I present the social connections and interactions of three demographics of people in the communities: A community head or chief and a wife, homemaker who is a farmer and a young man who is an *Okada* rider. I have selected to

exemplify these three groups because a typical *Okada* rider has the widest network of interactions that extend beyond the local community and the community head is the information broker in the community and exercises some power over certain types of information. I have included the homemaker who is a farmer because they have the least interactions in the community and they are the most socially excluded groups who are likely to be further excluded and marginalised with the introduction of ICTs. The connections and interactions presented here are not exhaustive and there many more connections identified. But in collating the answers from all the communities these connections were frequently cited by over 80% in each demographic group.

FIGURE 6.4: Community Chief: Network of Connections and Interactions



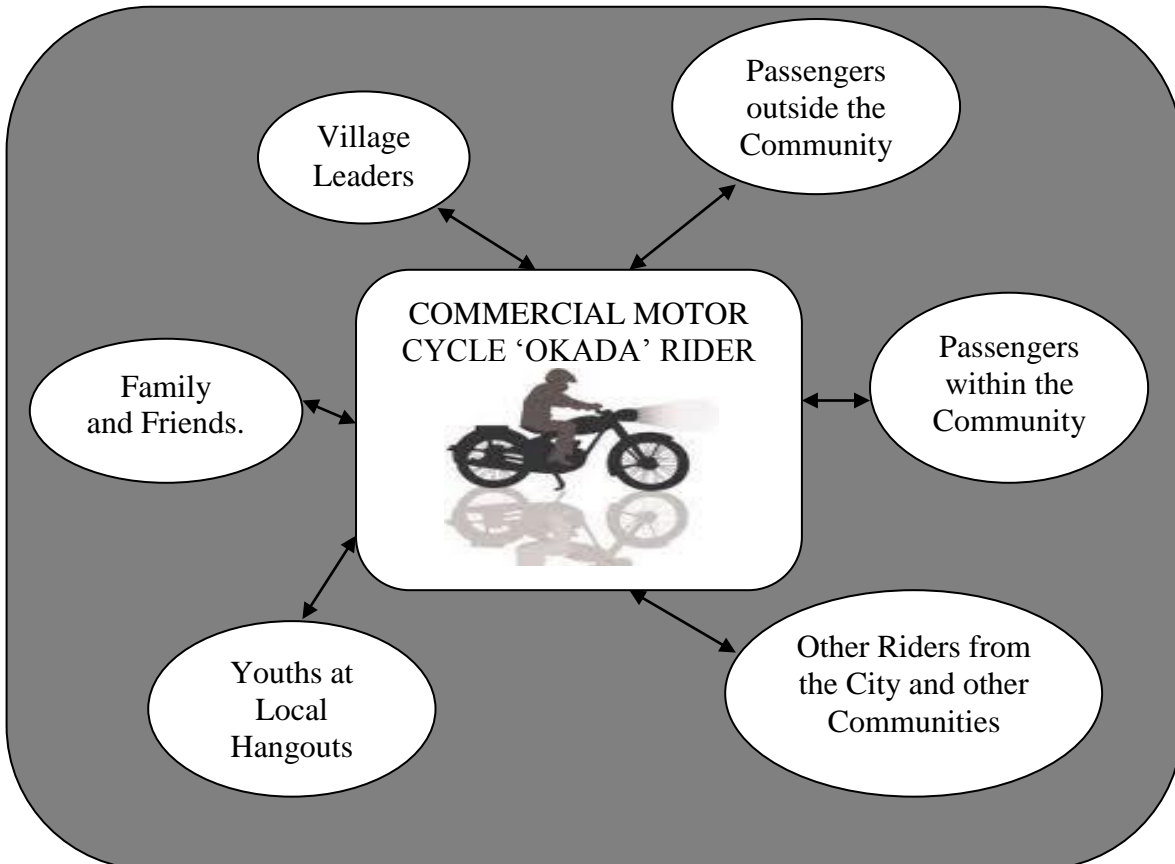
Source: Author

FIGURE 6.5: Wife and Farmer: Network of Connections and Interactions



Source: Author

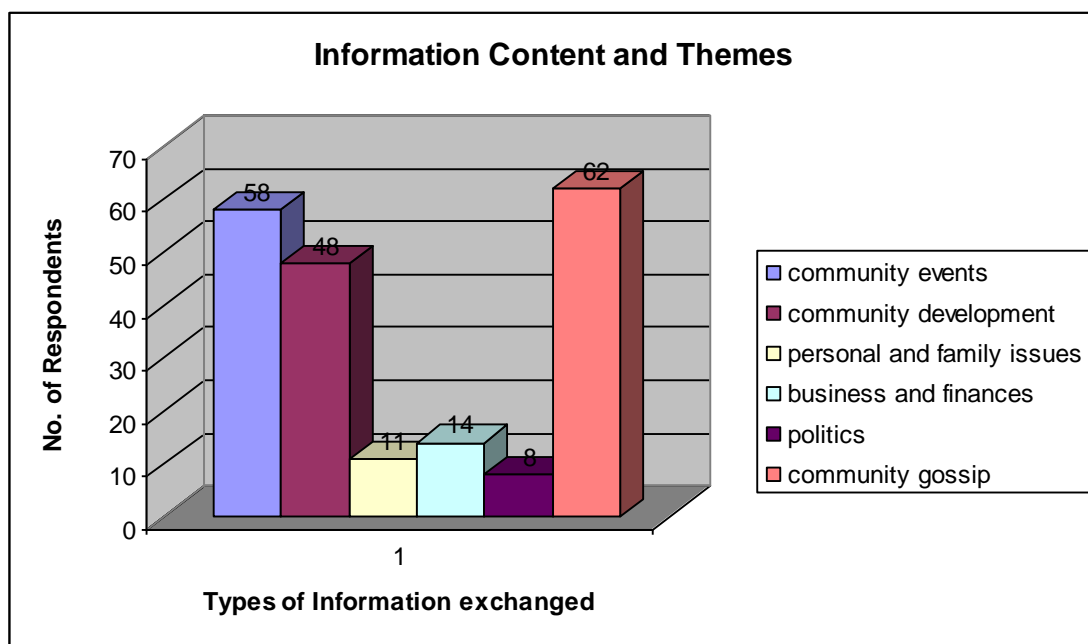
FIGURE 6.6: Okada Rider: Network of Connections and Interactions



Source: Author

Research on social networks has shown that interpersonal communication acts as an important channel for gathering and disseminating information (Kautz *et al.*, 1996, Harvey *et al.*, 1998). The sense of belonging and the concrete experience of social networks and the relationships of trust that are involved can bring significant benefits. However, the sense of attachment and quality of social networks varies between different groups in a community. Community networking represents one of the most interesting innovations in the use of ICTs to strengthen local, geographically based communities because it promotes economic and social participation by enhancing the informational resources available to people living together in compact territories (Gurstein, 2000; Keeble and Loader, 2001). Following Stacey (1969), it can be argued that for communities to be sustainable they should focus on enhancing the quality of social networks, rather than the creation or strengthening of ‘community’. Moll and Shade (2001) support this notion and argue that community development outcomes can be enhanced by strengthening local networks of exchange and mutual support. Interpersonal communication in these communities is the foundation of social relationships and the platform for the exchange of information. My research also explored the types of information exchanged within social networks and Figure 6.7 below shows the types of information exchanged by participants.

FIGURE 6.7: Community Information Themes and Content



Source: Empirical data

The results presented in Figure 6.7 are a collation of responses into themes from answers to the question ‘*what kind of things do you discuss with other community members you interact with and with those outside the community?*’. It can be observed from the chart that community related information is rated highly. Over 82% of those interviewed said they exchanged community related information with their social networks. Most of this exchange is done through face to face interactions and through mobile phones. This is a reflection of the close knit social fabric of the communities and also the fact that the people are very interested in issues that affect their communities. This is the desired goal in more developed countries where local governments are designing programs on sustainable communities that are intended to get the citizens more engaged in community activities and build networks and interactions (see Roseland, 2005, Meadowcroft, 2004 Aigner, *et al.*, 1999). Communities in the Delta already have this characteristic, but technology has not yet been brought into the equation to enhance and build these networks and translate these connections into concrete actions for sustainability.

6.3.2 Information Sharing Mechanisms

Social life is a communicated experience (Altheide, 1994). In the communities researched, communication is life; it is the very essence of their being. The people communicate in order to keep their values alive and relevant in a society that is constantly changing. Communication channels are dependent on four main information sources: the community leadership, the town crier, *Okada* riders and the youths. Figure 6.8 below shows how the communities exchange information.

This is my representation of the communication network observed in four of the communities studied: Anua, Mbiya Uruan, Ogbia and Imiringi. The representation shows the two-way communication involved in information exchange with two sided arrows that show information exchange. The data was gathered from observations and interviews conducted throughout these communities. During the course of the study, community members were asked to draw their own information flow diagram of how they receive information in their community (for example, see Figures 6.9 and 6.10).

FIGURE 6.8: Local Communication Channels

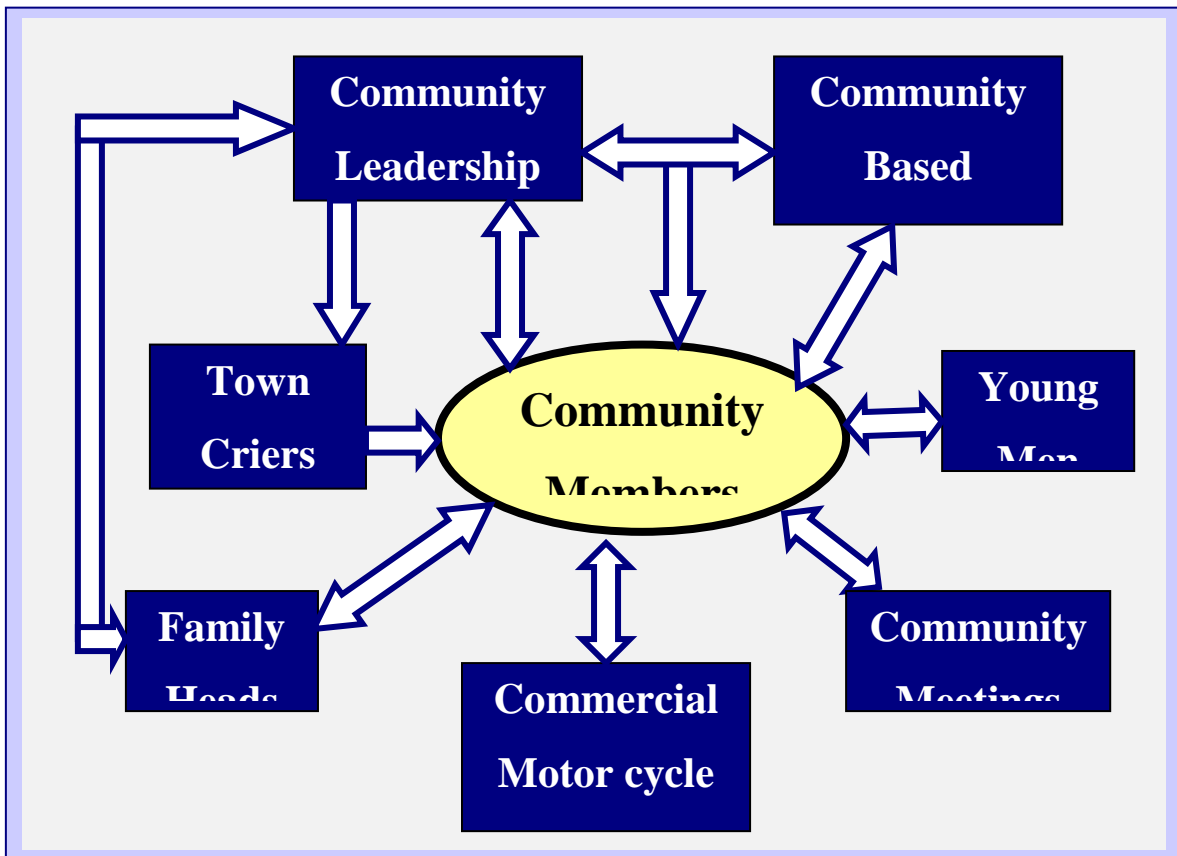
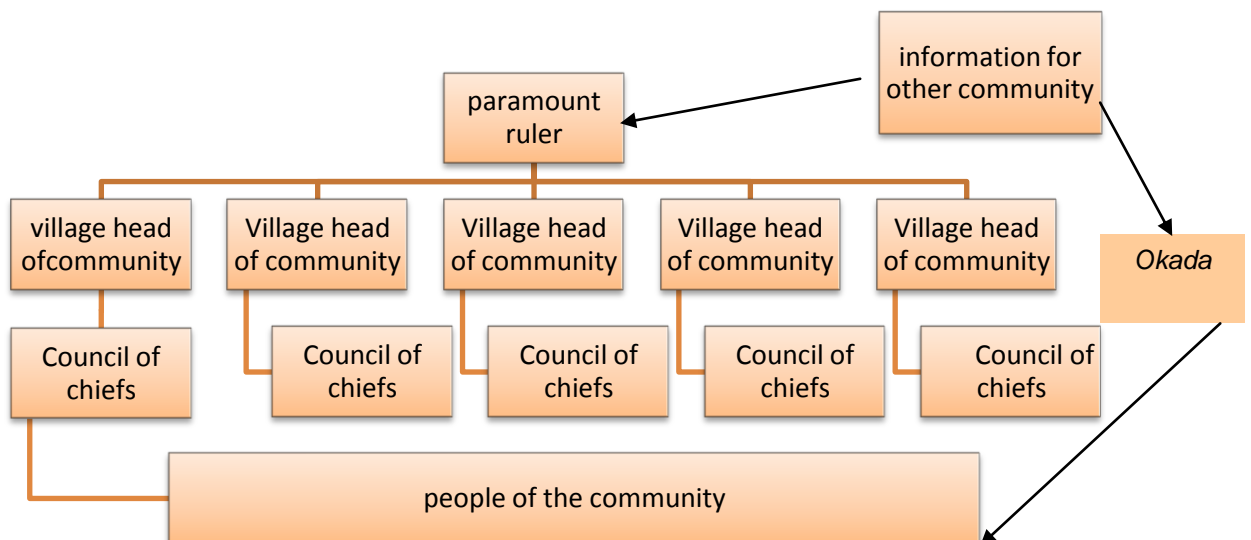
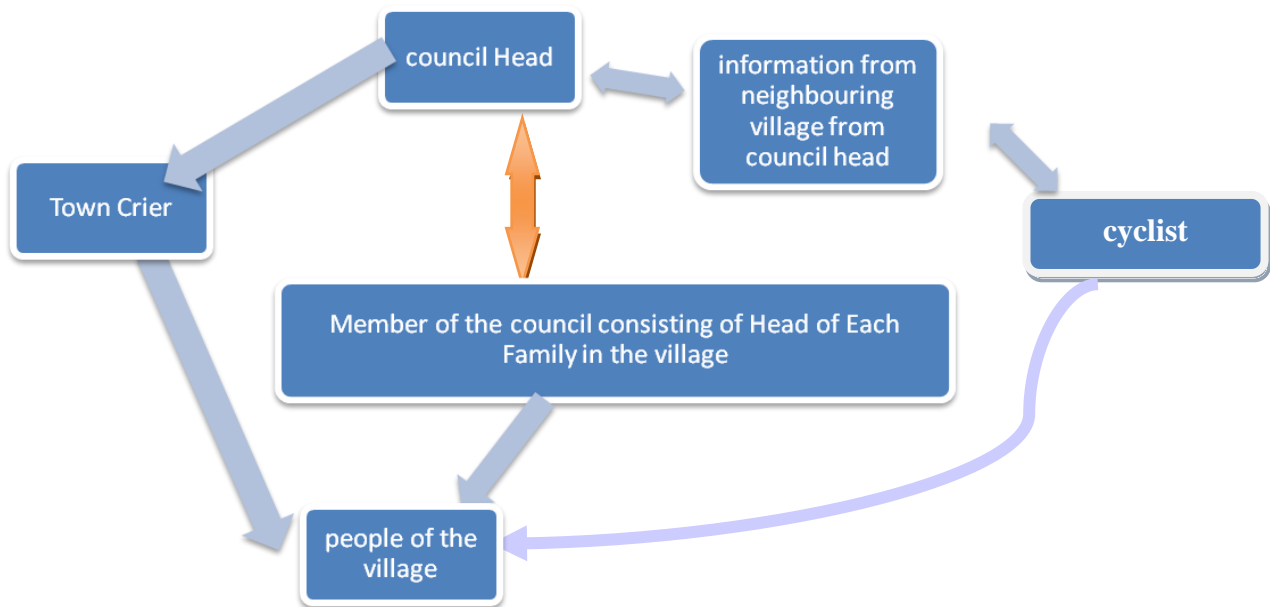


FIGURE 6.9: Participants' Representation of Information Channels in Anua



Source: Research Participants in Anua

FIGURE 6:10: Participants’ Representation of Information Channels, Mbiaya Uruan.



Source: Research Participants in Mbiaya Uruan

These depictions did not comprehensively document all the information channels but rather cast the community members as just information receivers who receive information from leadership. During my field research I observed a much more interactive information exchange and that is represented in Figure 6.8. In Figure 6.9, five heads of community and council of chiefs were depicted by the people because in that community, five villages make up the community and they are responsible for passing information to their own people and have their own town criers. In Figure 6.10 from Mbiaya Uruan, the community has one council head and it is a smaller community and so the communication channel is more basic.

Most communication in communities is done through mobile phones and face to face interactions. As shown in Figures 6.8, 6.9 and 6.10, the rural communities share and disseminate information using town criers or announcers. My first experience of town criers was in Mbiaya Uruan on my third night in the community. Around 9:30 p.m. some strange drums were beating. This was used to pass around information about the ‘sanitation’ (community cleaning) that would take place the next day and where it would take place and assigning which groups would clean which sections. The town crier came

out to hit his drum seven times and passed the information about the places where this sanitation exercise would take place. I noticed that people fell silent to hear the announcement and after it was complete, they just continued with whatever activities they were doing as normal. I learnt that it is usual to have these kinds of announcement monthly about sanitation. During this sanitation no one is left out rich, poor, men, women, children all have to be present. Any individual who does not take part in this sanitation is summoned by the council of chiefs or the street controller to a hearing in which they will pay a fine for the hearing and also for being absent. In some cases, the person may be given another portion to clean all by himself. The town crier also disseminates community information about road repairs, meetings and new laws to community members. The community leadership with the council of chiefs pass information to the people through town criers. Their role is to deliver community announcements. They do not receive feedback from the people; they just ensure that everyone in the community has received the information. They do this by amplifying their voice using a mega phone and going from house to house and public squares repeating the same information over and over. The information passed by the town crier is by far the most important information to the people because it is an official announcement from the leadership. As one respondent said, *“We take the information from the town crier very important, all other sources are not reliable. With that one we know the information is real”* (Anua, Male, 25, clothes retailer).

Information is also received through heads of families. In each family there is a designated member, usually the patriarch in the family who acts as clan or family head. The leadership and council of chiefs brief family heads about developments and they in turn pass this information on to their kin. The type of information usually passed on this way, is about laws and activities that require the participation of community members like curfews and community activism. They are also involved in conflict resolutions that involve their family members, such as land disputes, so they pass on decisions made by the council to their family members.

Within these communities there are no public transport systems such as buses or taxis. There are intercity buses that drop people off at the entrance to the towns at the community motor parks, but ‘*Okada*’ riders are the main means of commercial transportation within the communities. This gives the riders access to all kinds of

information which they pick up from the motor parks in town and from the passengers they carry (see Figure 6.3), so they have become key information carriers for their community. Important or relevant information that could impact their community is then passed to the youths or the community leadership. The riders are considered to have up to date information, so community members frequently seek them out to confirm rumours or to be updated on information from outside the community. In Figure 6.9 above, community members in Mbiaya Uruan gave them a central place in the information cycle.

Community leaders play a very critical role in the information systems of local communities, and to a certain extent they control information access. They filter developmental information (such as government programs, micro credits schemes for communities, NDDC training and job opportunities, and scholarships from oil companies) that comes in and transmit information they consider useful to community members. They are also the source for government and political information. For local government projects to be implemented in these communities, the community leadership has to be involved. They are the knowledge brokers in the community. An elderly man in Anua put it like this:

“because it is tradition for that information to pass through the paramount ruler before the people, and to know if is for the benefit of the community or not”.

Another respondent said

“because this information is to be filtered before it is released. If evaluated that this piece of information will cause trouble then it is not released to the community” (Mbiaya Uruan, Female, 30s, Market trader).

This reveals the kind of influence that the leaders have on the community's access to information. My research revealed that over 75% of these leaders are illiterate and totally out of touch with what is happening on the global scene, yet the educated ones in the community allow these leaders to preside over them because of the tradition and norms that have been handed down for many generations that leaders should be greatly respected and in a few cases revered.

Community meetings are another platform for information exchange. This is the one platform where the voice of the people is heard. In these gatherings there are usually heated debates about developments and incidents in the community. Community members are given the opportunity to air their grievances. If there are issues the people are not happy about, this is the place where they can express their views and usually a consensus is reached about actions to be taken to resolve these issues. This is one area where citizen participation was evident.

This oral nature of Niger Delta communities gives relevance to the reliance of the people on such communication media as the voices of the town criers, *Okada* riders, art forms and other means of passing information characteristic of the rural setting. It is this pattern of communication that has continued to sustain the information services of the communities.

6.4 ACCESS TO INFORMATION

The information age (Castells, 2000; Friedman, 2006) is claimed to be an era in which information, increasingly in a digital form, is the basis of the socioeconomic activities of societies. Castells (1997, 1998) argues that we are in the ‘information age’ where information generation, processing, and transformation are fundamental to societal functioning and societal change, and where ICTs enable the widespread expansion of networking throughout the social structure. It is generally believed that development of any society is linked with information. Hughes (1991), for example, argues that information is indispensable in the development of any society, be it economic, social, political or cultural aspects. He contends that in the developed countries, information has become so vital that it has assumed the same status as land, labour and capital as production elements. In their article on mass media and the African society, Domatob *et al.* (1987) similarly remark that no society can aspire to greater heights economically, socially, politically and technologically without adequate and relevant information. In view of these widely accepted arguments, it can be argued that to empower communities in developing countries towards a more sustainable future, access to information is a critical component for a sustainable community.

ICTs are often articulated as information devices. ‘Information’ is the ‘I’ in ICT for development. A common reason identified in the literature for the failure of ICT programs in indigenous communities is that key community members perceive new technologies as an external mechanism that will undermine existing information systems and change the ‘knowledge brokerage’ role of key stakeholders such as community leaders (Robinson, 1998). Thus, it is important to carry out an information needs assessment prior to introducing any ICTs. Such an assessment would make explicit the role that information plays for the community and which information and communications channels (be they oral traditions or community-radios) are traditionally being used in the communities. Understanding information practices of indigenous peoples provides a clearer picture of the communicative ecology. Even more important to providing solutions for information access, is an understanding of the barriers to information and identifying the information needs of the community. This section therefore explores these issues and attempts to answer the following questions: what are the information needs of the community and the individuals?; how are these information needs presently satisfied?; what are their information seeking patterns and behaviour?; and what are the barriers to information access?

6.4.1 Information Needs Assessment

The information needs concept has been defined by Said (2003: 10) “as the requirement for facts, data or ideas for a certain purpose”, and by Case (2002: 5) as recognition that personal knowledge is inadequate to satisfy a goal that needs to be achieved. Maepa (2000: 11) argues that the concept of information need does not only presuppose the lack of information; it goes beyond this by linking the need with the use of that information to solve a problem. He stated that information need is therefore always situation specific. This means that when a person has identified his/her information needs, then he/she is in a position to seek for information to meet those needs.

A number of factors affect how different members of the community may understand or use information, such as gender, economic status, or literacy. Each community has its own way of communicating and finding out about what is going on in their area and outside. The purpose of understanding information needs in this research is to identify

ways and media in which people seek information and if this has been effective in meeting the information needs of individuals and the community as a whole.

The information needs assessment demonstrates that different groups of people within the community have different needs. The youths for example were interested in entertainment information such as music and sports. They would go out of their way to search for news on football, or latest music releases. They were also very interested in information on job opportunities: 63% of youths interviewed stated in one way or another that they need current information on job opportunities and scholarship opportunities. The students said the reason for using the internet is primarily to get information to help with their education. Only four respondents said that when they have study assignments from college, they search out information on the net to do their home work essays. One young man in his mid 20s at the university, studying creative arts said *“infact I don’t know what I would do without the internet, we had an assignment to write an essay on renaissance art and without the internet I would not have been able to write the essay. It is where I go to get information to help me in my studies”* (Anua, Male, 20s, Student). Nigerians love the British premiership league, and even in very rural villages’ people gather at community viewing centres to watch football matches (see Figure 6.11). People pay as little as N50 (20 pence) to watch these matches. So for those who do, sport news is of paramount importance.

Other types of information sought after include information on community welfare projects, social events, and two respondents said that they are interested in the latest discoveries in science and technology; 15% of the respondents said they would like information on events around the world, which shows the desire of indigenous communities to be included in the global information system. One young man, who is unemployed even said *“I want to hear any breaking news”*. When I asked him why? He said *“so I can stay alert in case of emergency”*.

Health information was also cited as being important especially by the women. There is a need for health-related information, such as information regarding certain diseases, particularly childhood diseases, how they are contracted, and how to treat them.

FIGURE 6.11: Viewing Centre in Amassoma



Source: Author

One respondent said they currently receive this information from the radio when the general hospital run by the government announces new initiatives such as immunisation, and free drugs for tuberculosis. One area where health information is affecting behaviour is the campaign against HIV/AIDS. A couple of the respondents cited how the information received on HIV/AIDS from the radio has made them more willing to protect themselves and has given them more knowledge about the transmission modes. For example, one respondent said *“health news is very important to me, for example, there was a time a drug which can be used to make drinking water safe was advertised on TV. I bought it and started using it”* (Ogbia, Female, 43, Trader).

Information on income generating activities was also highly desired. The women were very interested in small business opportunities and micro credit schemes. They would like to get information from the Ministry of Women Affairs and the Bureau of Cooperative Development about cooperative schemes. One woman in Mbiaya Uruan said

“we no dey know wetin the happen for here. dem go don share the money finish before we go come here say government dey give loan. Last time dem give loan to farmers make dem take buy machine wey go dey work for farm and manure, but we no hear for

here” Translation- We don’t get information here about what is happening in town, when the project is finished then we hear, last time farmers were given loans to buy farm equipments, but we did not get the information, so no one in this community got it) (Mbiaya Uruan, Female, 30s, cultivates and sells farm produce.

Traders and farmers also wanted information on product prices. Currently such information is received when they go to ‘market’. Sometimes prices have gone up and they could not get the information until they go to buy their next stock, and consequently could not update their prices to reflect the increase and they end up with a shortfall.

There is also a high demand for local and state news as shown in Table 6.1, indicating that respondents were interested in what is happening around them. A third of those interviewed stated that they were interested in local and state news. As one respondent put it *“News about my community and my state is important to me so that I know how to seize opportunities that it brings”* (Amasomma, Male, 40s, Civil Servant). For state news they want to know about government projects and how this will affect them. They also want local government information which they currently receive through the community heads. Political news was also important, especially for the men. The men are interested in governance because whoever gets elected directly affects them as a community and individually. Women did not seem to show the same level of interest in political information, and this could be because politics and governance are considered a man’s domain. Over 80% of community leaders rated political news as the second most important information they require. This information they say is important in mobilizing the community to vote for a particular candidate and hopefully gain favours, and also to organise the youths to protest if an unfavourable candidate is put forward. The local chief in Anua put it like this: *“Like now, the next local government chairman has been zoned to our village, if anyone from somewhere else try to take it from us we will cause trouble, the youths will mobilise and stop the election”* (Anua, Male, Late 40s, Council Member).

Over 90% of community leaders also cited local government information as being the most important information need for them. When asked why, they claim that without knowing what the local government plans, they cannot advocate for their people. One head

of council said “*we even get informants in the local government office ---- that is people that are working there that are from this community to give us any information on what they are doing, if we no like am we go cause trouble, na so ee be.*” (translation - if we don't like their plans we will protest and make trouble). Local development initiatives are dependent some times on the ability of the people to self organise and mobilise for action. This is totally dependent on the information they receive. So, local government information was highly rated as important among community leaders.

Entrepreneurs, traders and self-employed people mentioned business information as an important information need. One young woman in her early 20s said business information is important because “*my area of interest is business, at least I can monitor my share price from the TV*”. Almost all the unemployed people interviewed, said that they were interested in information on career development and job opportunities.

The most highly demanded information need identified as shown in Table 6.1 is community development information. All the groups, youths, women, men, and community leaders identified this need as being important. It shows that community development is a priority for the people and this is one area where the introduction of ICTs can be potentially very useful for community development. However for ICT to be effective in this area, local content must be developed.

Roman and Colle (2003) note that ICTs are not really about computers, internet, and telephone lines, rather they are about information and communication and this makes the issue of content a very important priority in utilising technologies for community development. They also suggest that the relevance and sustainability of technologies depend heavily on what they can offer to their communities, who still need to be convinced of the value and potential benefits of ICTs. Similarly Ballantyne (2002) argues that if practitioners are serious about utilising ICTs as an empowerment tool, they need to convey locally relevant messages and information. They need to provide opportunities for local people to interact and communicate with each other, expressing their own ideas, knowledge and culture in their own languages.

TABLE 6.1: Information Needs by Gender

Information needs	Overall Percentage	Male %	Female %
Information on community development	48	66	34
Latest discovery in science	3	100	-
Job opportunities,	35	58.5	41.5
Technology	7	100	-
Government projects and services	37	88.5	11.5
Politics, current affairs	15	98	1
Events around the world	22	70.5	29.5
Entertainment information i.e. music, sports	30	53	57
Local and state news	31	65.5	34.5
Health news and information	15	68	32
Social events	18	52	48
Business information i.e. product prices, supplier information.	23	56	44

Source: Empirical Data

The information needs assessment in these communities is complex because it is very diverse and several factors affect why certain groups want certain types of information more than others. It is evident that gender, class and status play important roles in determining which types of information are needed. The social structure and the community roles played by different stakeholders determine what they consider important and what is not. For example for community leaders to remain relevant they need to be able to access information on local government activities and political developments. The community members expect them to have this type of information, and so it becomes an information need. Information needs are usually directly related to the occupations and status of the people. Major areas of information needs include agriculture, health, politics, education, economy, and community development.

For my research, what was most important was to identify those information needs that could potentially impact on the sustainable development of these communities and how they currently access this information and explore ways in which ICTs may be

integrated into the indigenous system to satisfy these needs. I discuss the integration of ICTs and its impact on communities in more detail in Section 6.8.

6.4.2 Information Seeking Behaviour

To build upon the information needs identified above, the next step in my research was to identify the information seeking pattern of the people for a better understanding of how and why people access information, and to identify peoples preferred source of getting information.

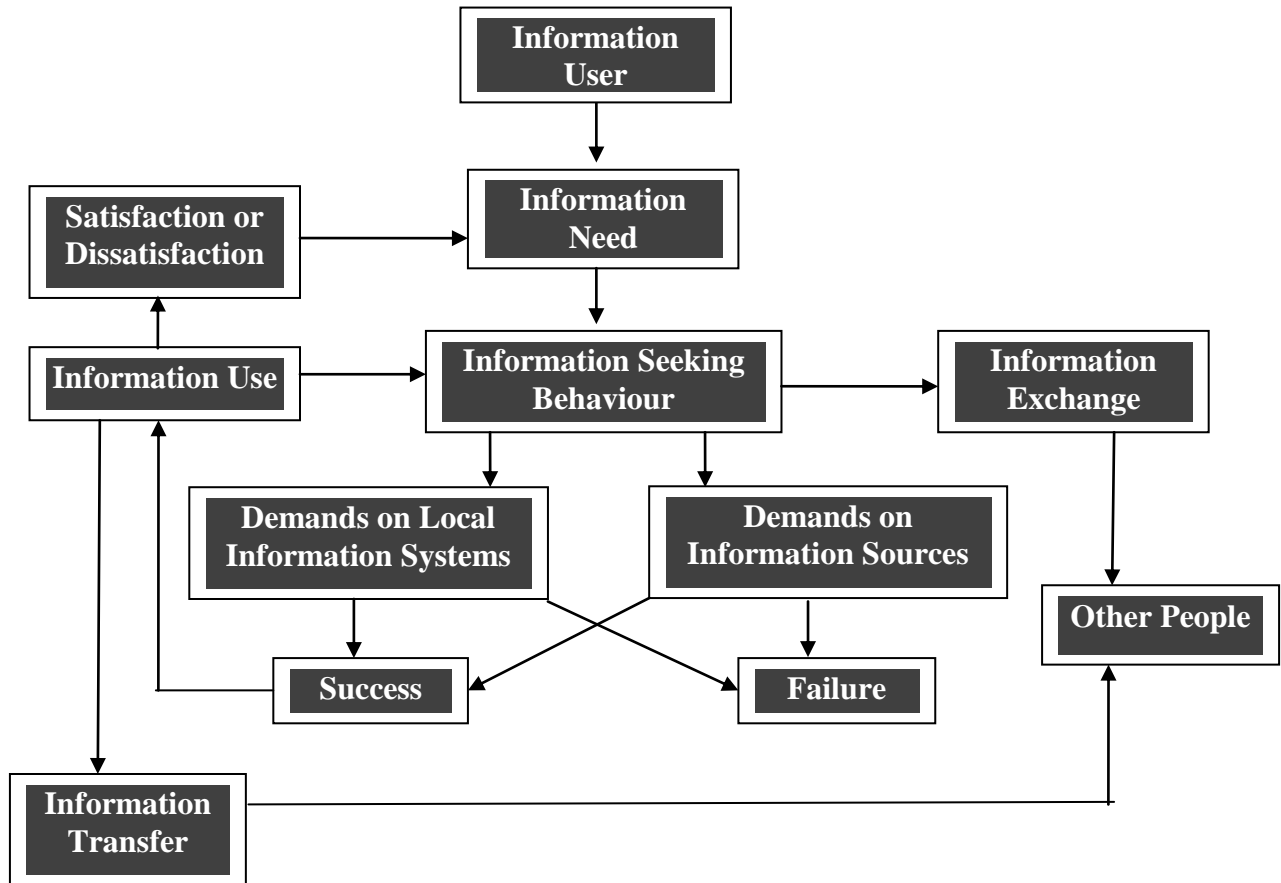
Wilson (2000) defines information seeking behaviour as the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, an individual may interact with manual information systems (such as a newspaper), or with technologies (such as the World Wide Web) or with other individuals who have this information. Wilson proposes a model for information seeking behaviour which is depicted in Figure 6.11 below.

Wilson's model in Figure 6.12 suggests that information-seeking behaviour arises as a need from an information user, who, in an attempt to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. If successful, the user can then use the information which may either satisfy the need or, fail to satisfy the need and then the search process is reiterated again. The model also shows that information-seeking behaviour may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as being used by the person himself or herself. This was the case with my research participants where information was frequently sought from other people or known community sources.

Harris and Dewdney (1994: 27) state that "people follow habitual patterns in seeking information", meaning that people tend to adhere to deeply engrained patterns or habits when seeking information, much the same as they do when carrying out other routine tasks. As Harris and Dewdney further explain (1994: 21) people "tend to seek information that is easily accessible, preferably from interpersonal sources such as friends, relatives or

co-workers rather than from institutions or organizations, unless there is a particular reason for avoiding interpersonal sources”.

FIGURE 6.12: Information Behaviour Model



Source: Adapted from Wilson (1999)

My data showed that people preferred to go to particular sources for specific types of information. These sources are trusted for those particular types of information. Different categories of information come from specific sources. The Niger Delta people share many similarities in their information seeking behaviour. The participants identified three main sources of information from which they actively seek information. Human sources used included other family members, other community members, family heads, co-workers, *Okada* riders; non-human sources included newspapers, radio, television; and place based sources were the market square and beer parlours (Table 6.2).

TABLE 6.2: Information Sources

Information needs	Habitual information source
Community events, Community development, Personal and family issues.	Informal networks (family, friends, and colleagues).
Community gossip, Community events, Politics.	Place based sources i.e Beer parlours, Market square
Politics, State and national news, World events, Business, finances, Job opportunities	Radio, TV, Newspapers
Government projects and services, Health information, Job opportunities	Organizations: church, school, hospital, NGOs, community associations etc.
Community events, Community development	Community leaders

Source: Author

People preferred to receive local information from human sources. For example information on admissions, scholarship opportunities would be sought from fellow students. A trader would seek market price information from other traders who perhaps have travelled out of the community recently to buy stock. They would be the preferred source for receiving market prices, even though they are competing in the same market. Most participants turn to medical practitioners such as village nurses and traditional herbalists for their health information, and also depend on prior experience. In the Ibaka area, which is a fishing community, information and daily prices are received from other fishermen; they have unions and cap their price to the agreed daily rate.

Information flows are mostly horizontal in the Niger Delta, that is, between individuals of similar status. People tend to seek information from their peers rather than from the experts who may have reliable information. Women also utilize informal networks, such as friends, neighbours, and relatives for what they believe to be reliable information. A housewife would prefer to ask a fellow housewife about family planning techniques rather than go to a gynaecologist in the hospital. This could be because of the bonds of trust and reciprocity that are strengthened in these communities through the presence of peer group (“age grade” as it is locally called) associations and activities and these form part of their social network. Another reason may be that the social structure of these communities is based on face to face interactions, meaning that people feel more

comfortable receiving information from friends, neighbours and peers than more impersonal sources. This has implications for the adoption of ICT as a major source of information (see Section 6.6.1 for further detail).

News and information from outside the community is generally sought from newspapers, radio and TV. These media are considered to be external sources and people do not have a personal connection with them. About 24% of respondents interviewed say that they trust the information received via radio and TV; while 75% say they do not trust these sources. These figures are much higher in comparison to indigenous communities in other regions such as India (see Mathiyazhagan *et al.*, 2007) where 10% receive information via radio; 3.9 from television and 7.8% from traditional media and a staggering 72.8% from interpersonal communications (with friends, neighbours and relatives).

One respondent from Anua thus said that *“is it not government that is controlling them, anything the government want them to say that is what they will say on Radio, they do not want people to know the real truth.”* Another said *“is it not government that is paying their salary”*. So there is some form of mistrust about information received from radio and TV. In the three states studied, the radio and TV stations are all government owned and run. The senior management of these stations are appointed by the government and so the people do not see them as an objective and independent source of information.

Information about the country and international news is sought from radio and TV. For example when there are religious riots in the northern parts of the country as is common, people will gather around the radio to listen to updates. Information on international crisis like the 9-11 terrorist attacks in America, or the tsunami in Asia was sought by listening to Voice of America and BBC World radio channels and the TV. Most respondents rely on information through radio, television, and newspapers, as well as informal networks. Although radio, television, and newspapers are considered less reliable, since many believe this information is influenced by the government's selfish interests, they are however considered good sources for international news. Informal networks are considered by users to be the best source for reliable and authentic information.

Information on community development activities is sought from the leadership via town crier or other community members. Any other sources that provide information on community projects, no matter how legitimate, is not considered important until the town crier announces it and the heads of families have been briefed. Even information passed on by the local government is frequently announced by the town crier. If this is not done the people do not consider the information important. If one community member was out of the community when the town crier brought information, some member of their family or neighbours will definitely pass on this information to them.

There are also place-based information sources. These places are where people go to get information by listening in on what other people are saying and asking for current information. When the people want information about developments and happenings in the community there are certain places where information is exchanged frequently. These include market squares, viewing centres and the local bars ('beer parlours'). These places act as information hubs for the community and lots of local news and events and personal tales get exchanged there (see Table 6.3).

TABLE 6.3: Habitual Information Sources by Frequency and Gender

Habitual information source	%	Male %	Female %
Informal networks (family, friends, and colleagues).	49.9	41	45
Place based sources i.e. beer parlours, market squares.	19.4	38	29
Radio, TV, Newspaper	6.7	13	8
Organizations: Community associations, church, school, hospital, NGO etc.	16.2	6	16
Community leaders	7.8	2	2

Source: Empirical Data

Over 60% of the people interviewed stated that they actively seek out information on a daily basis. When asked why, one respondent put it this way *“Don’t you know that information is power, if you don’t have information how can you protect yourself, anything can happen, and you will not be prepared”* (Anua, Female, 32, trader).

It was, however, observed that the information-seeking behaviour of the participants is largely centred around survival and basic day-to-day concerns. The people acknowledge the importance of access to information and would like to be more informed. Even though the people actively seek out information they consider will be beneficial to them, there are however factors that limit people's access to the level of information they require, and these are explored further in the next section.

6.4.3 Barriers to Information Access

Based on my field research, three main barriers to information access were identified: illiteracy, reliance on social networks, and gender. Illiteracy is the primary barrier to fulfilling information needs, 54% of the people interviewed just have secondary school education. They can read and write very simple English. Another 14% have received some further education such as teacher training courses, certificates in vocational skills and diplomas from state colleges or polytechnics. Certain skills are required to use information-seeking tools, to locate appropriate sources and retrieve useful information, to evaluate and access informational relevance, and to synthesize that information into a mechanism capable of solving an information problem. People's lack of basic literacy impacts on their abilities to access relevant information and when they have access to these relevant sources they are unable effectively to retrieve the needed information as a useful resource. Lack of education remains the primary obstacle to meeting the information needs of the working poor in developing countries (Momodu, 2002; Chakrabarti, 2001). The illiterate ones in the community where I worked are frequently not given certain information because it is believed it would be of no use to them. For example, because most fishermen in the Niger Delta are illiterate, they often get information that is outdated, unreliable, and inaccurate through informal networks, and this keeps them at a loss professionally as well as financially. Moreover, while relevant and up-to-date information exists, it is not readily available to them, so they turn to other people who are often themselves unqualified or unknowledgeable, and they also lack the technologies to process information. Development information, such as job opportunities or skills training from the Niger Delta Development Commission (NDDC) that could benefit the whole community is accessed by the leaders and the educated ones. So there are many people who are totally excluded from receiving information because they are illiterate. The deployment of ICT can further isolate these socially excluded groups if it is not

appropriately implemented. Momodu (2002) performed a field study of the information needs and information-seeking behaviour of rural populations in Nigeria to identify barriers to information so that better information systems could be designed to meet their needs. His research also identified illiteracy as a major factor limiting information access; he found that besides illiteracy, a serious language barrier compounds this problem, particularly in regions like the Niger Delta where there is not one local language but several ethnic groups with different dialects. Although he did not offer any thoughts on opportunities for improvement, he nevertheless mentioned that information resources should be permanently located in the community. He concluded that the population suffers from a lack of information access, which is crucial to their development.

The reliance on social networks as a major source of information is another barrier to accessing useful information. These citizens, regardless of geographic location or line of work, rely overwhelmingly upon informal social networks to meet their information needs. This is not necessarily a problematic concept and much literature supports the notion of enhancing informal social networks for building healthy communities (Bridger and Luloff, 2001), because it enhances social capital, that is building trust, ties and reciprocity. However when people rely *strictly* on conversations with friends, relatives, and neighbours as their major source of information with no other alternative reliable sources, they are limited in the new knowledge they can acquire (Reagans and McEvily, 2003). Consequently, they can only know what their social networks know. A lot of incorrect information gets passed around because of this. Relying solely on social networks does not allow people to make informed choices. They are limited to what their habitual sources know, and when that source is a person living in the same community, facing the same information access problems, new knowledge cannot be received.

Gender is another factor that hinders access to information. A widening technological gap between the sexes was observed during my research and it is reinforcing traditional forms of power dynamics and hierarchies. A series of factors, including literacy and education, language, time, cost, social and cultural norms, constrain women's access to information. Although, these factors are applicable to both genders, the impact for the women is more severe. For many years in the Niger Delta region, it was considered a better investment to send boys to school. It was generally thought that women will get

married and be taken care of by their husbands, but the men need to be able to earn income. Due to this thinking, when a decision has to be made on whom to educate in a family with boys and girls, the girl child's education was always sacrificed. Most of the factors that militate against the girl-child access to education are socio-cultural. Many countries on the African continent rank among the poorest in the world (UNESCO, 2009; Offorma, 2009). The BBC (2006) similarly reported that African patriarchal societies favour boys over girls because boys maintain the family lineage. In the Niger Delta region where many are struggling to get enough food and to stay alive, remain out of reach of the various violent militants, and to care for those stricken with various diseases, a basic education, especially for the girl child is low on the list of priorities. Consequently, literacy levels for men are higher than for women and this affects their ability to access information. Statistics reveal that there are serious gender inequalities in educational attainment in Nigeria. According to the National Literacy Survey by the National Bureau of Statistics (2009) and UNESCO (2009) the overall adult literacy rate among the males was 65.1% while that of females was 48.6%. Among youths of secondary school age group, literacy rate among the males was 76.6% while that of females was 67.1%.

The people's perception of gender roles is also a limiting factor. It is generally not acceptable for a woman to be very vocal. It was my experience when conducting the focus groups that when it was a 'women only' focus group, the women were very vocal and able to articulate their needs even more than the men. One implication of this is that many women do not actively seek information from other people apart from fellow women like themselves. They cannot hang out at viewing centres or beer parlours, because it is not considered appropriate for women to be seen in such places. I even observed attempts actively to limit women's access to information. One chief said:

“there are issues we don't involve women, some information we discuss in our meetings are secret and the women have their own duty, it is not everything a woman should know” (Mbiaya Uruan, Male, late 50s, community chief).

Their sources of information are a lot more limited than those for the men and this reduces their access to information. Women do not have a voice in the negotiations which may influence the development of their communities, and therefore their access to

technological and information resources are greatly limited. In implementing ICT for development initiatives, it is therefore imperative to create mechanisms for women to formulate and defend their needs and interests and increase their access to information. ICT projects should explicitly be targeted to include more women in development activities and give them a voice to articulate their own needs.

Traditional leadership is also a constraint. The discretion of leaders affects information access, and as stated earlier they filter the information coming into the community. In oral cultures, the collective memory and importance placed on the elders to store information creates a strong system for information flow (Slim and Thompson 1993). There is a need for mediation between the traditional and emerging information systems when considering the socio-cultural and economic leap that will be required for societies, accustomed to receiving information orally from a known and trusted source, to new digital, text based information from virtual, and virtually anonymous, sources. As Momodu (2002) elucidates, rural dwellers in Nigeria are not inherently poor. Nigeria is a country of fertile lands as well as rich mineral resources. There is also a massive and capable labour force. He suggests that, what Nigeria needs is good information in the right quantity and in the most appropriate format. Information is critical to development (Jacobs and Herselman, 2006); thus ICTs as a means of sharing information are not simply a connection between people, but are rather a link in the chain of the development process itself.

6.5 ICT ADOPTION AND USE

Previous studies have shown that access to information through ICTs can facilitate many development activities including community development (Gómez and Hunt, 1999; Sebusang and Masupe, 2003). Conradie and Jacobs (2003) writing on the challenges encountered in utilizing ICTs to support the development of rural African communities note that the major challenge that has to be addressed is a social challenge, which has to do with developers bringing ICT into a rural area without adequate consultation with the local communities with regard to local needs that the technology should address. Jacobs and Herselman (2006) support this notion by stating that the value of ICT should be found in the community-owned activities and community space where issues of importance to the community are addressed. This section therefore documents ICT usage patterns in the

communities studied, focusing on identifying the ICT media used, how and why they are used and the purpose and frequency of use. This is followed by an outline of the factors that influence ICT use, and then I conclude by discussing ICT impacts and integration in the communities.

6.5.1 ICT Usage Patterns

In addition to detailed observations documented in fieldnotes and informal interviews, I also interviewed a total of 72 people about their ICT usage patterns in the four communities where the second phase of my research was undertaken (Anua, Mbiaya Uruan, Ogbia, Amassoma). This convergence of methods was used for the purpose of triangulation to validate respondent's answers. For more details on the data collection strategies used during this phase of study see Section 3.4.2.1 -3.4.2.4. Table 6.4 shows the demographics of the people interviewed.

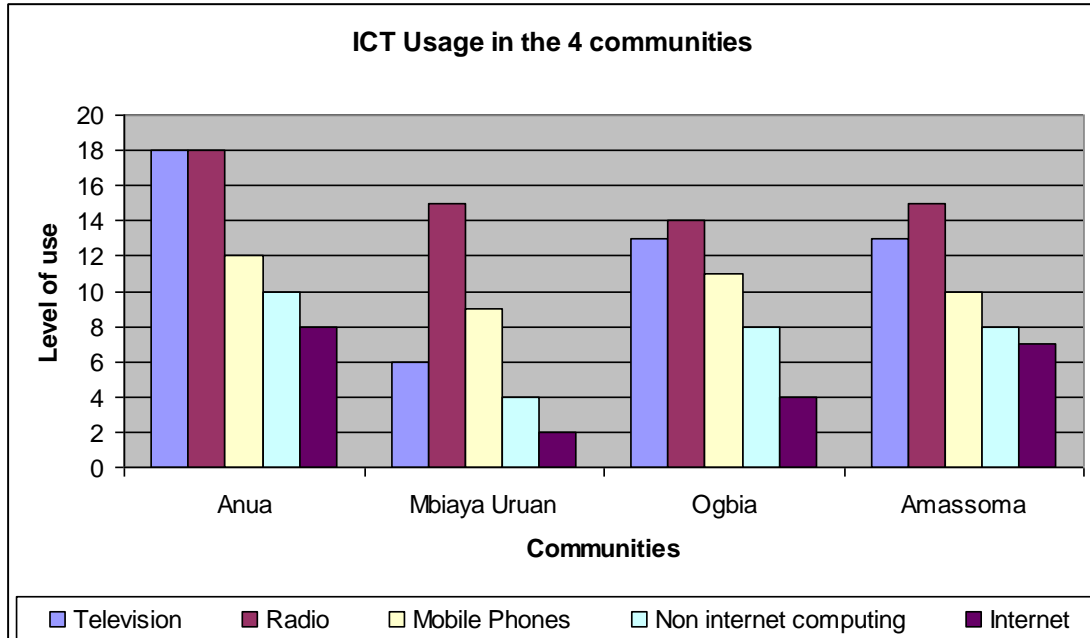
TABLE 6.4: Characteristics of Respondents interviewed on ICT usage Pattern

		Ogbia	Amassoma	Mbiaya Uruan	Anua	Total
<i>Age</i>	20-39	14	10	11	12	47
	40-59	3	5	7	4	19
	60 and over	1	-	2	3	6
<i>Sex</i>	Male	10	7	12	9	38
	Female	7	8	8	11	34
<i>Occupation</i>	Employed	2	2	4	5	13
	Self Employed	5	4	4	3	16
	Student	3	5	3	6	17
	Out of school youths	3	2	2	2	9
	Unemployed	3	2	6	4	15
	Retired	1	-	1	-	2
<i>Educational level</i>	Primary	16	15	18	20	69
	Secondary	8	3	6	12	35
	Higher Education	3	2	4	8	13
	No education	1	-	2	-	3

The investigations revealed that a combination of old ICTs (Radio and Television) and new ones (mobile phones, computers and the internet) are used across the Niger delta. In most of the homes visited, I noticed the presence of a radio and sometimes a TV set. The communities varied in the level of use of more individual technologies based on a

series of factors that I discuss later in this section. Anua and Amasomma are the most advanced of the four communities in terms of ICT use (see Figure 6.13).

FIGURE 6.13: ICT Usage in the 4 Communities

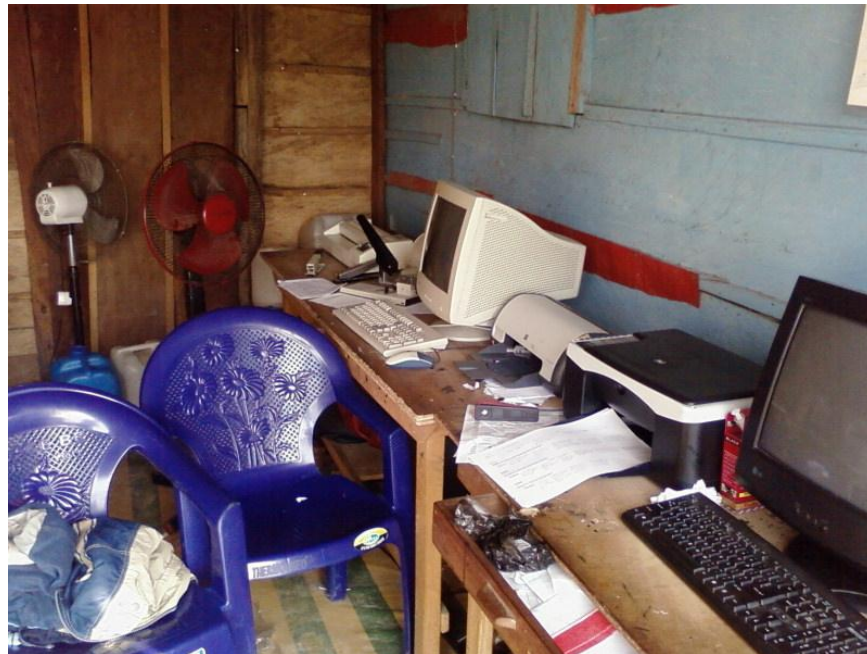


Source: Interview data

As depicted in Figure 6.13, people in Anua community use ICT media more than the other communities. One of the major reasons for this is that Anua is situated on the outskirts of the state capital and is relatively well developed. The community has two cyber cafés in close proximity to each other. Majority of the people have at least a secondary school education and over 40% of the participants interviewed have some form of further education. Electricity supply is more frequent than the more rural communities and the people are also more aware of the benefits of technology use. 90% of the respondents claimed they owned or had regular access to a television set and radio, and 60% owned a mobile phone or had regular access to one by borrowing or using one of the call centers located on most street corners. Less than 40% have ever used the internet; young men and women under the age of 40 constituted over 90% of internet users. Internet use was not an everyday activity but most of those using it did so once or twice a month and mostly to receive and send emails. None of the participants interviewed owned a computer but they knew a couple of people who did. They mostly used computers in cybercafés or ‘business centres’ (places with computers, photocopiers and printers, where

people pay to type, print and reproduce documents). Figure 6.14 is a business centre which at the time the picture was taken had no power supply and no customers, so the attendant was sitting outside because it was hot.

FIGURE 6.14: ‘Business Centre’ in Anua.



Source: Author

Only two people interviewed in Mbiaya Uruan and eight in Anua said that they use the internet. It is the young men and women who use the internet, mostly students. I did not find anybody over the age of 45 who uses the internet. It is mainly used for learning, academic research and registering for examinations, such as GCSE. The following are typical of the responses I got with respect to Internet use:

“I most of the time use the internet for downloading scientific journals and do research on new scientific discovery online.”
(Anua, Male, 25, Student, Studying Botany)

“I get information which I use for school work from the internet”
(Anua, Male, 20s, Student)

“I am doing my nursing course, and I get some materials online sometimes” (Amasomma, Female, 26, Trainee Nurse)

Despite its low use, when I asked the respondents in Anua, which media, they would most like to use if given the opportunity, a majority of the people under age 40 said, “*the internet*”. Most people have a sense of the kind of potential the internet brings and would like to get on the information highway.

Mbiaya Uruan is a more rural community and access to technology such as computers and the internet is more limited. There are no cyber cafés or business centers there and for people to get access to a computer they have to travel into town which is about 30 minutes away by car. Only two of the respondents interviewed in Mbiaya claimed to have used the internet and both were students who had to use it to get their GCSE results; even then it was not operated by them but by an attendant in the cyber café. The most popular technology used here is radio. 60% of those interviewed who were youths (male) said that the radio is used basically for listening to local news (6.0 clock news, state news, 4.0 clock news, national news) and entertainment programs (mostly premier league). About 10%, however, say they listen to international news. One factor responsible for the much lower level of ICT use in this community is that the poverty levels in Mbiaya Uruan is much higher than in the other three communities, and the literacy level is also a lot lower with less than 30% of the respondents having a secondary school education. People cannot afford to use technology and would rather channel their resources into daily survival. Radio is their technology of choice because it is cheap to maintain, does not require a fixed power supply and is portable and readily available.

Ogbia as a community is a blend of modern development and rurality because some parts of the community can be described as very rural with mud and thatch houses, whereas other parts have quite modern buildings and developments. This is because Shell Petroleum Company has had a base in the community since 1972 and their presence has brought certain developments to the surrounding areas. There are no cyber cafés in Ogbia and people have to travel to the state capital some 45 miles away to use internet facilities. Radio is the most popular medium used here also, with 82% of the respondent saying that they use it regularly. Over 50% of respondents use television and mobile phones. Because of lack of accessibility and skills fewer people use computers. Only 8 respondents claimed to have used a computer before. Again ‘use’ here does not mean that they have all operated the computers themselves, but rather that some people get attendants at cyber cafés to

operate the computers for them because they lack the skills to operate them themselves. Participants in Ogbia acknowledged the importance of communication technologies and stated that they would like to have access in their own communities.

The percentage of those who use the internet is higher in Amassoma than in the other communities and the interviews showed that the people were more interested in access to relevant information than the other communities. Contributing factors may be because the community has three secondary schools, a university and a cyber café. The Niger Delta University, established in 2000, is located in Amasomma and this is the only university in the whole state. Its presence has impacted the community socially and economically. There are many more businesses offering services to students and as a result the community thrives with economic activity. Even though the community is still basically rural, the university has provided facilities for internet access for their students through the presence of a cyber café in the community, and so people do not have to travel so far to access the internet. Also, Amassoma is the only community where everyone said that they have access to radio. They have what the people refer to as ‘Amasomma radio’, which is basically a public address system with speakers installed in every corner of the community (see Figure 6.15). This system is used for community announcements and discussions; it is also connected to broadcast the local radio channels. This system is like a modern form of the old town crier system. So the people do not necessarily have to carry a radio around. The broadcast of radio channels means that everyone has access to radio services. Television is watched by almost everyone in the community; everyone I interviewed said they watch TV. Not every home has a television, those who do not, watch it in their neighbor’s houses. They do not watch it every day because of intermittent and inconsistent power supply. Radio is the most constant source of external information for the people.

In all of the communities, mobile phones and radio were the most affordable and most used ICTs. There were five major reasons given for not using the internet: 60% of those who responded said they had no access to a computer or internet; 73% said lack of skills was a reason for not using it; 56% said they cannot afford it; 35% said they had no need for it (mostly the older ones; and, a couple of people said they had no time, especially the women in Mbiaya Uruan who said they were not really interested, and others were not culturally disposed to the idea of new digital forms of communication.

FIGURE 6.15: 'Amassoma Radio'

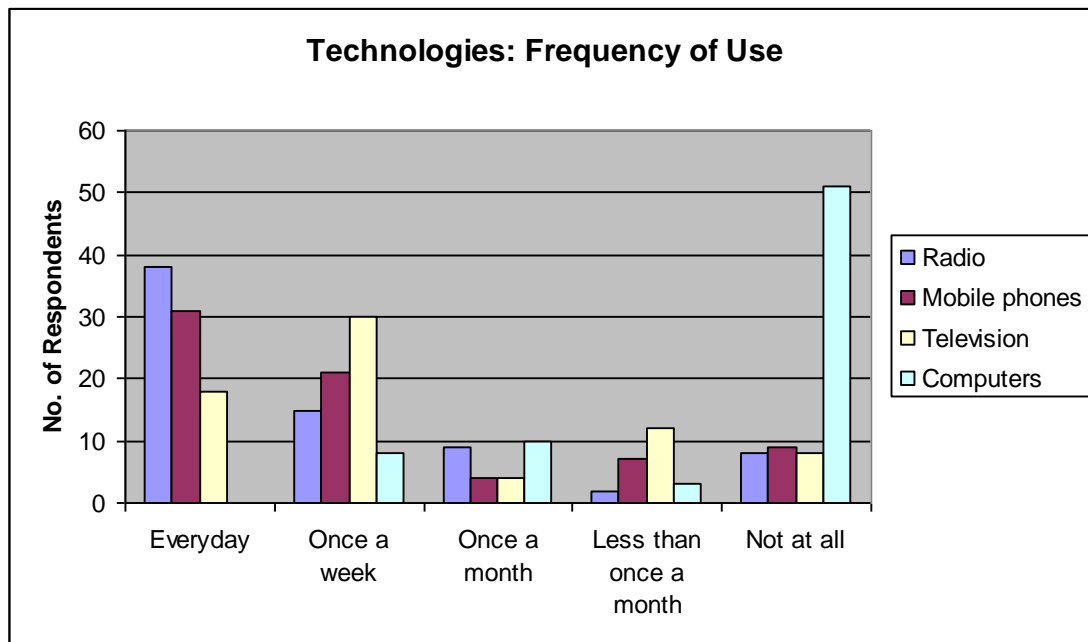


Source: Author

Internet use is very limited, because cyber cafés are located outside two of the communities: Ogbia and Mbiaya Uruan. Most people have never used the internet and cannot use computers, but they have the perception that it is very costly and do not even try. People with mobile phones exchange more information than those without. Figure 6.16 below shows frequency of use of the different technologies.

As can be observed from Figure 6.16, radios, mobile phones and televisions are the technologies most frequently used. Radio is used by 53% of respondents everyday and mobile phones by 50%. None of the respondents interviewed uses computers daily; the most frequent level of use is once a month, and that, by only 10 respondents. The most obvious thing in Figure 6.15 above is the high number of people who have never used a computer; approximately 80% of respondents claim never to have used a computer. A large number of those who use computers or the internet are students, and so if students are removed from the equation, that would be over 98% of respondents who do not use computers.

FIGURE 6.16: Technologies: Frequency of Use



Source: Interview Data

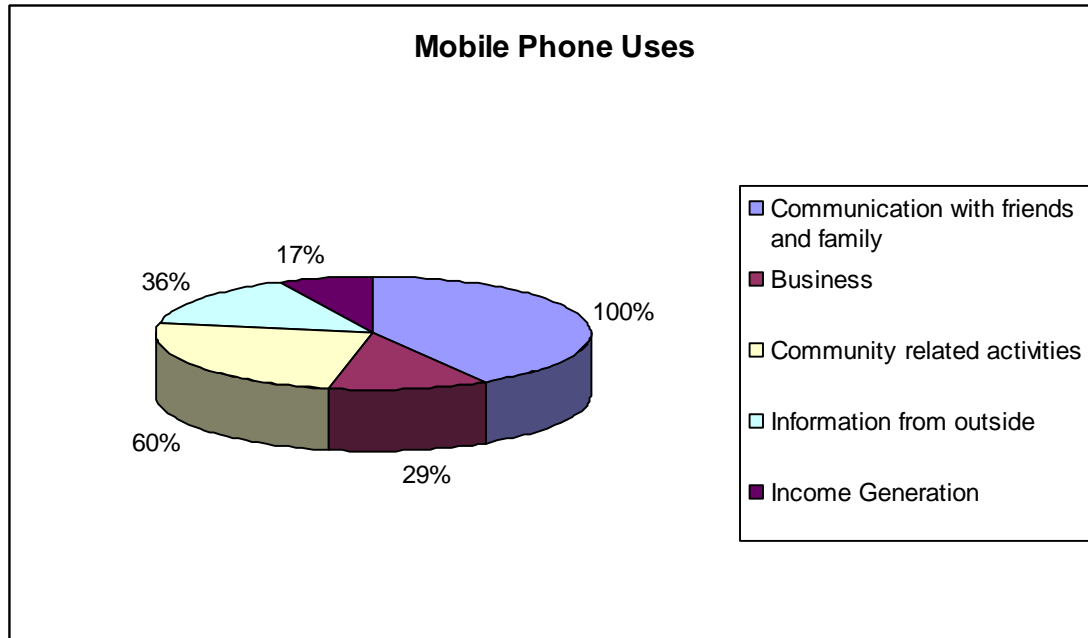
6.5.2 Radio and Mobile Technologies

Based on the interviews and observation, radio and mobile phones emerged as the most widely used technologies and were those with the most impact on the people's lives. I explore further here how people are using these two technologies, including the purpose of use and their impact (Figure 6.17).

Figure 6.17 shows that 42 of the 72 people (58%) interviewed on ICT usage said they regularly use mobile phones. It should be emphasized that this reflects those who use, rather than own, a mobile phone. The number of mobile phone users is much higher than the actual number of phones, as many people allow family and friends to use their phones. Those who cannot afford to own a mobile themselves can access mobile services through informal sharing with family and friends or through community phone shops. Mobiles are used as a community amenity. Most mobile owners allow family members to use their handset for free and a third of them do the same for friends. 85% of those who use mobile phones said they had more contacts and better relationships with family and friends as a result of mobile phones. Community call centres allow many more people to gain access to telecommunications, albeit for a price. Increased mobile connectivity improves access to information. Knowledge of the latest prices in different markets, for example, can improve

price transparency for small farmers and fishermen who can cut out the middlemen and gain direct access to markets.

FIGURE 6.17: Mobile Phone Uses.



Source: Interview Data

Figure 6.17 also demonstrates that the most popular use of mobile phones is to communicate with friends, family and colleagues. The respondents claim that mobile phones have actually saved them a lot of money. They can now communicate constantly with friends and family without the need to travel, cutting down on their travel costs. It was also observed that the percentage of male youths under the age of 35 that use mobile phones is higher than the percentage of older people who use mobile phones. Of the 47 people under the age of 39 interviewed, 32 (82%) of them use mobile phones, and a larger percentage of these were male. Data from observations and interviews show that mobile phones are used mainly for social interaction with other community members and people living outside the communities. One respondent said *“I use my phone to communicate with friends and I also use it to get information about what is happening in a particular area”* (Ogbia, Female, 43, Trader). Out of the 42 people who use mobile phones, all said they used it basically for social interaction; seven of them also use it as a means to earn an income (call centre). 12 (29%) of the respondents use it for business, mainly to call customers and for customers to call them for their services.

Mobile phones are also used for community related activities. In Mbiaya Uraun the council chief uses it to schedule new meetings with members especially emergency ones where urgent action needs to be taken. Mobile phones are also used to enhance security watch in the community. The youth vigilante groups use them and mobile phones are considered most vital for crime prevention. They are particularly used for communicating with other members of the group while they are on watch and alerting people in times of danger. One young man said *“I use it to alert people in case of any incident like robbery”*. Other respondents reiterated this:

“In terms of security, there are times we have caught robbers in this community by being able to call for reinforcement from inside the street through the phone” (Mbiaya Uraun, Male, 23, Unemployed)

“I was able to save a man from being lynched by calling the police who interfered just in time” (Ogbia, Male, 23, Call centre operator)

“Our street power has been restored by being able to call PHCN to report fault in the area” (Mbiaya Uraun, Male, 27, Unemployed).

Mobiles are also used for business communication (Figure 6.17). Of the 29% of the respondents who use the mobile for their business, traders, artisans, plumbers, electricians, carpenters and the self employed use mobiles as their only means of communication. Some claim they have even increased sales as a result of mobile phones, in spite of increased call costs. One second hand clothes retailer said

“GSM (mobile phone) has really helped my business oh. Before, when I go to market and come back, I will start going up and down telling people my goods have arrived, and I can't go to many places. But with my GSM now, even before I land, I call all my customers that I am arriving, and they will be waiting for me by the time I come, and my goods move. Even sometimes when I am in the market, my customer used to call me and place order for what they want. Before, nothing like that” (Anua, Female, 35, Retailer).

People use phones to contact their clients, and they are invaluable for those offering services. For example, a generator repairer living in Anua works in town for a generator services company, but he does a lot of private business because of his mobile. He says that clients who he had serviced previously prefer to call him directly and he would go to their houses and fix their generator, earning him a lot of extra income. He said that without his mobile phone this would not be possible. He added that:

“I no dey joke with my GSM, if e spoil I must buy new one or repair am, without it, no business for me. I dey use am to call my customer wey dey sell part for me for Aba, im go tell me wether im get the part wey I want, if im no get I no go waste my money on transport to Aba” (Anua, Male, 31, Generator Repairer)

Translation- I take my GSM phone very serious, if it is bad, I must get a new one or repair it because without it I cannot earn money. I also use it to call the person that sells me spare parts in Aba [a commercial city in another state] if he does not have the spare parts I want, it saves me travel costs.)

Mobile phones are also used as a direct source for income generation. Seven of the respondents interviewed say they use mobile phones to generate an income. Many people now earn an income from running calling centres. These are community phone shops, usually little tents that are constructed by the road side where people make local and national calls from mobile phones for as little as N30 (1p) per minute, and international calls for N50 (2p) per minute (see Table 6.5).

These calling places are all over the place on almost every street corner. Calls from call centres are cheaper than from private phones (see Figure 6.18 for example of local call centre and Table 6.5 on GSM tariffs) because the mobile networks sell wholesale call minutes at less than half the price to call centre operators.

TABLE 6.5: Mobile Phones Tariffs in Nigeria

TARRIF	GSM NETWORKS OPERATING IN NIGERIA			
	ZAIN	MTN	GLO	ETISALAT
Calls to Same Network, Peak	45N (0.75/s)	30N (0.5/s)	35N	6N (0.1/s)
Calls to Other Networks, Peak	48N (0.8/s)	42N (0.7/s)	39N	6N (0.1/s)
Calls to Same Network, Off-peak	39N (0.65/s)	30N (0.5/s)	35N	30N (0.5/s)
Calls to Other Networks, Off-peak	48N (0.8/s)	42N (0.7/s)	39N	30N (0.5/s)
SMS to Same network	15N	7N	8N	10N
SMS to other networks	15N	15N	8N	
International Calls (China, US, Canada, UK, Europe, Middle East)	33k/sec	67k/sec	49k/sec	55N
International SMS	N15	N15	15N	15N

Source: Author compiled from network websites, August, 2010

In the Niger Delta the value of mobile phones to the individual is greater because other forms of communication (such as postal systems, roads and fixed-line phones) are often poor or not functional. Mobiles provide a point of contact and enable users to participate in the economic system. The older people (over 45), who were part of the study exhibited a conservatism regarding the acquiring of new ICTs or additional facilities. Mobile phones are however well received by the older people; the phones are perceived as extensions of what was familiar and useful in relation to their current activities. The people had developed a certain dependency on the mobile phones.

FIGURE 6.18: Call Centre in Anua

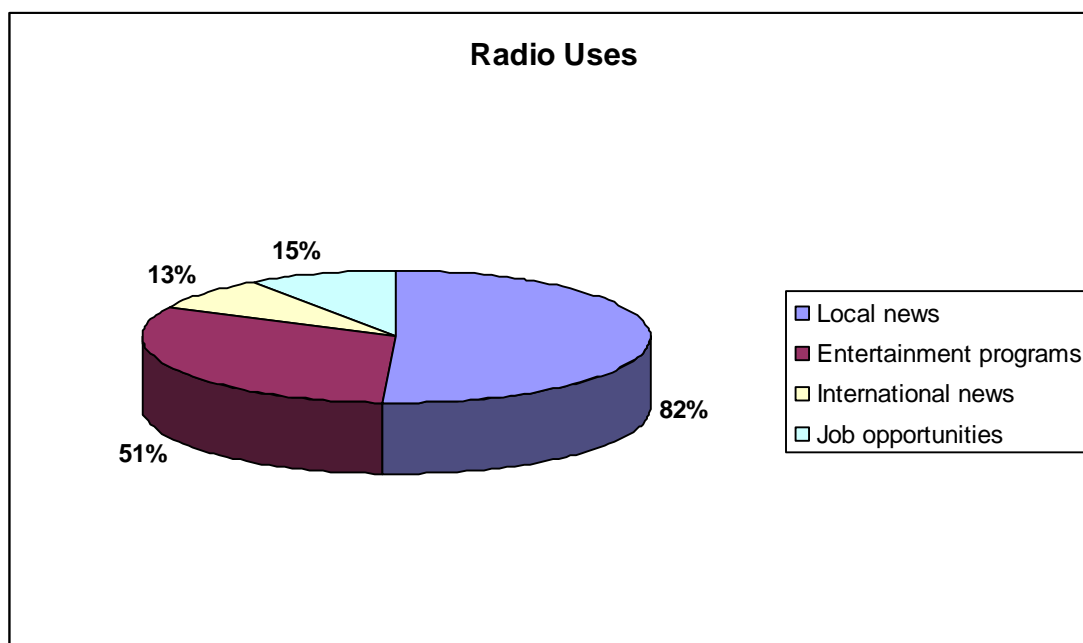


Source: Author

The rapid spread of mobiles has been aided by pre-pay options that allow users to control their spending. Use of text messaging in the rural communities is much lower due to illiteracy and the many indigenous languages. People prefer to make calls rather than text. This has implications for other technologies that use the written word, such as the internet.

I now turn to radio use and its impact on the people and community. Figure 6.13 depicts that 62 of the 72 people (86%) interviewed on ICT usage said they have listened to radio. The percentage is based on the 62 who actually use radio in all 4 communities. Of this number over 60% are men. Men carry their radios around but it is deemed not appropriate for women to do so. I tried to find out if this was a law but nobody I asked knew why. It is just one of those stereotypes assigned to women and men. Figure 6.19 shows what radio is actually used for.

FIGURE 6.19: Radio Uses



Source: Interview data

Women listen to certain programs on the radio, but they tend only to do so at home, or in someone’s house or business premises. The most popular radio program listened to by women is ‘Sibaba-Sibaba’ which is aired on radio in the Ibibio language (for more details on program content see Table 6.6). When asked why, the women said the program teaches them about how to keep their family and also teaches them about life in general. Some women also said they use the radio to listen to religious programs. When asked about how they get news about what is happening, less than 10% of women use the radio for this purpose; over 80% of them said they hear about what is happening in the state from other people. When information is received from the radio, the young men are always the first to get it, while the women are the last. I did however have one respondent in Anua who gave a very different answer from the other women. She is in her 40s, married and a trader, and she said *“I have a personal radio to get health information and also this network banking has helped in transfer of money to anyone around the world through my mobile phone”*. Another woman, a nursing student said *“I get most of my information through TV and radio, when I was trying to get into nursing school, I heard on the radio that nursing and midwifery schools will be doing exams, so that is how I applied and got admission”* (Amasomma, Female, 26, Trainee Nurse).

The statistics of usage are very different for the men. 60% of the men interviewed said that the radio is the ICT medium they use most constantly and frequently and they basically listen to local news (6.0 clock State news, 4.0 clock national news) and entertainment programs (music and premiership leagues). Only about 10% of them listen to international news on BBC world and VOA (Voice of America). One respondent gave a reason for this and said “*it is quite mobile and it can be carried about*” (Mbiaya Uruan, Male, 35, Unemployed).

FIGURE 6.20: Cobbler and his ICT Media



Source: Author

I spoke to a cobbler who had three dysfunctional TV sets and three radios (see Figure 6.20, in the picture, the cobbler is on the right and my research assistant is on the left). When asked about the kind of information for which he uses the radio, he said that he uses it for news about NDDC (Niger Delta Development Commission), job opportunities and sometimes other news. He was very proud of his collection of TVs and radio sets, even though only one was fully functional. For him, having these technologies is a symbol of modernity and achievement.

My research also identified five of the most popular programs on radio in Akwa Ibom state which is broadcast in Anua and Mbiaya Uruan. These programs have a large

following and I explored the content of these programs to assess what kind of information is transmitted and why it has such a huge following (see Table 6.5).

TABLE 6.6: Popular Radio Programs in Akwa Ibom

PROGRAM	CONTENT
Talk back	It is a feed back program where people send in their letters and criticises the government or some information aired on radio. It also covers important societal issues, advocacy for behaviour change on certain important issues like HIV/AIDS, child labour etc.
Sibaba-sibaba	A very popular program aired on radio in Ibibio (local language). It covers different kinds of human interaction, lifestyles. e.g. the correct way to treat house helps, child trafficking and abuse; undesirable behaviour of commercial motorcyclist, reckless driving. Every kind of topic from societal issues, health information, and petroleum spillage to how to be a good mother and wife is discussed.
20questions	This is a game show program where people ask the anchor 20 different question about what he has in his mind (a secret object or place). After which the contestant is given a chance to see if he can get the answers to what the anchor has in mind.
Ibom Express	The program is aired on radio in English and it deals with societal issues affecting the people just like sibaba-sibaba. The program is anchored by the same person that anchors sibaba-sibaba. It is just an English version.
Hilltop safari,	It is an entertainment program where different types of music are played.

Source: Author, compiled from interview data.

An analysis of the radio content reveals that the people found programs in the local language more interesting and were able to relate better to them for three major reasons. First, the language gave them a sense of connection with the program content; they are familiar with the phrases and the idiomatic expressions used. Second, the content of the radio programs also pass relevant information that the people find useful, content that directly relates to their personal lives and issues that they are facing. The content on the internet is usually written by people who have no sense of the daily struggles of people's lives in third world communities and the language and form may be alien to them. Third, it is easy to access, they do not have to spend extra much needed income to benefit from radio broadcasts. I also noted that radio is the medium that is closest in form to town criers with which they are familiar and this may also be another reason why it is so popular. Radio and mobile phones have the most potential for meeting some of the information and communication needs of the people and this is explored further in Chapter 7.

6.6 KEY FACTORS THAT INFLUENCE ICT USE

The research on end-user computing (Straub *et al.*, 2002; DeLone and McLean, 2003), ethnography of information systems (Walsham, 2002) and ICT adoption (Agarwal and Karahanna, 2000; Gefen and Straub, 2001; Chatterjee *et al.*, 2002; Walsham, 2002; Legris *et al.*, 2003) suggests that factors other than the technology itself affect the successful use of ICT within developing countries. Cullen (2001) and Rao (2003) in particular identified seven main factors that prevent rural businesses from reaping the benefits of ICTs and can also be seen as barriers to using technology:

- Physical access and the costs it involves
- Lack of awareness of the benefits of ICTs
- Lack of ICT skills and support
- Attitudinal barriers like cultural and behavioural attitudes towards technology
- Language barriers in using the Internet especially if English is not the first language
- Lack of local language information products or content, especially tailored to the assimilation capacities of rural people or interesting and relevant to them
- Lack of motivation to use information over the Internet

Evidence from my own study echoes these findings and identified similar factors that influence the adoption and use of ICTs. Among the most important of these are: income, skills, access costs, level of education, age, gender, cultural influences, perceived usefulness and accessibility. In this section I explore each of these in turn.

6.6.1 Cultural Influences

Cultural influences are a major determinant of people's use of ICTs in the Niger Delta. When ICTs are introduced to indigenous communities, they bring along with them mass media, popular culture, and global languages such as English, which causes inevitable clashes with local traditions. Communication in Niger Delta communities is still embedded in oral traditions. People are predisposed to using information sources such as elders, friends, radio/television, and associations, town criers, art forms and other means of passing information characteristic of indigenous settings. It is this pattern of communication that has continued to sustain the information service of the communities. It is trusted, familiar and reliable, so people are not very willing to change their patterns of communication unless they perceive that it is beneficial to them. This cultural inclination

affects their willingness to embrace new technologies. Similarly, Hill *et al.* (1998) found that the cultural predisposition of face-to-face dealings and family-like environments affect technology acceptance in the Arab World. They also found that participants with "traditional religious values and conservatism" showed greater resistance to ICT transfer in its current "Westernized" form.

The communal nature of these communities also affects people's willingness to transfer to more individualistic avenues of interaction. Erumban and Jong (2006) argue that people in individualistic societies are more prone to make their own choices while people in more communal societies conform more readily to the norms of the group. Community ties and social interaction as identified in Chapter 5 define community life in the Delta. The local information and communication networks support this communal lifestyle. Adapting to new media of communication and interactions like digital forms of communication may threaten the status quo and power relations within communities. Mobile phones and radio are more acceptable because they enhance these traditional structures. Mobile phones enhance face to face interactions and strengthen community ties. The users also have some control over mobile phone use as opposed to computers, where they have limited or no control. The cultural influence is evident in the use of mobile phones. People tend to make calls instead of 'texting'. Although there are other factors, like literacy, responsible for this, it was observed that even among the youths who can read and write, they felt more comfortable talking to people than texting. Texting was viewed as an impersonal way to communicate. One young man in Anua said *"Yes, I know how to text, I do text, but I text when I don't have much credit on my phone, but if I have credit, I prefer to call someone and hear their voice, instead of through text"* (Anua, Male, 25, Student). This can be attributed to the value placed on interpersonal and face to face interactions. Radio is also an accepted medium because it is not intrusive and can be used to make community announcements like burials and coronations, and information received from the radio can be beneficial to their communities because it relates directly to their way of life. It is seen a good source of information that does not interfere with community information systems. Modum (1998: 99) commenting on Nigerians' cultural conservatism toward computers, urges his fellow Nigerians to *"imbibe the values of the computer as a tool that can be used by all for problem solving, no matter their profession."*

Previous research has shown that culture plays a role in ICT adoption (Mwesige, 2003; Myers and Tan, 2002). Many other studies agree with this notion that culture has a strong contextual influence on whether and how individuals, organizations and societies use ICT (see Hofstede, 1991; Myers, 1999; Walsham, 2002; Kim, 2003; Rose *et al.*, 2003). Researchers have also cautioned about the current lack of attention to cultural beliefs and their impact on ICT adoption in developing countries (Loch, *et al.*, 2003; Hill *et al.*, 1998). They suggest that forcing a culture to adapt to the technology can create an unfavourable atmosphere for the acceptance of ICT in the importing country. Hill *et al.* (1998) similarly assert that, unless taken into consideration, socio-cultural factors may put ICT transfer at risk in certain developing countries. These studies demonstrate that: (1) ICT adoption differs across cultures; (2) the ICT usage diffusion patterns in a given culture are influenced by the culture's beliefs, norms and values, among other cultural dimensions; and (3) different cultures tend to prefer different technology.

6.6.2 Attitude and Perception of ICTs

My research suggests that attitudinal and behavioural factors played a significant role in the people's adoption and use of ICTs. The level of interest, awareness, understanding and acceptance of ICTs was very low. Almost 50% of those who have never used the internet claimed that they have not done so because they are not interested. Some of the respondents viewed ICTs, especially computers and the internet as a symbol of modernity, which was out of reach for a lot of them. The women farmers did not see how using computers could fit into their world and simply had no time for them. A couple of women did however feel that their children should benefit from using computers because they knew it was the way of the future. They also felt computers and technology were for the elites in the society, and too costly. In Mbiaya Uruan for example over 50% of the respondents did not know what an email is. They were more focused on everyday survival and some even considered it a waste of precious time talking about technology when there is poverty and other more prevailing economic and social problems to deal with. The respondents that did not use these technologies did not see how it could be beneficial to their everyday struggle for survival. Although ICT for development proponents are touting the benefits of technology for poor communities, yet evidence from my research demonstrates that many people in developing regions like the Niger Delta just do not want or feel they need these technologies.

Previous research has also shown that individuals' perceptions about a technology influence their acceptance and subsequent adoption of the technology (Rose and Straub, 1998; Grover and Ramanlal, 1999; Venkatesh, 1999; Gefen *et al.*, 2003). The key constructs for examining individuals' perceptions in past adoption studies have been *perceived usefulness* and *perceived ease of use*. However research on levels of interest, awareness, knowledge and acceptance of ICTs by individuals has been limited (Revenaugh, 2000; Cullen, 2001) and the extent and significance of these factors as barriers to the adoption and use of ICTs are still not fully explored.

My research findings contradict the widely held assumption that the main barrier for adoption and use of ICTs is access. Having access to ICT is problematical for indigenous communities in developing countries, but even if technology resources are available it is possible they will not have the motivation, desire or skills to use them.

6.6.3 Accessibility

Lack of physical access has often been regarded as the key barrier to ICT adoption and use (Erunban and Jong, 2006; Podjola, 2003) and as a result has attracted a great deal of research interest. The results of the research in this area have enabled donor agencies to develop and implement a number of policies aimed at providing ICT access for all. Increasing access to ICTs is the main focus of initiatives implemented to address the digital divide. The main objective of these initiatives has been to enable ICT access, often for disadvantaged groups and this is being done by creating community centres that provide ICT access and by equipping schools and libraries with ICT. However, as the previous sections of this thesis have highlighted, there are additional issues that need to be considered in relation to providing ICT access for all. Increasing access to ICT is a precondition for use; accessibility is an obvious factor, because if people do not have access to technology they cannot use it. This was evident in my study. Anua and Amassoma have cyber cafés, so the level of use was considerably higher than in the other communities that did not have cyber cafes. Mbiaya Uruan has no cyber cafés and no consistent power supply so the level of use is less. If ICTs were more accessible, more people would use them. Evidence from the literature has also shown that providing people with technology will not ensure that they will use it. Lessons learned from other developing regions show that sudden exposure to technology does not guarantee

meaningful usage (Odedra-Straub, 1996; Madon, 2000; Sahay and Avgerou, 2002; Sein and Harindranath, 2004). A more holistic approach needs to be adopted especially for communities in the Niger Delta. Complementary activities and initiatives need to be undertaken simultaneously if the provision of access is to be effective.

6.6.4 Education Level

Low levels of education are a key barrier to ICT adoption and use for two main reasons (Oswald, 2002; Selwyn, 2002). First, basic ICT use does not require high levels of educational attainment. However, it does require basic literacy skills such as reading and writing. Therefore the level of education received and attained by socially excluded groups will determine their capability to use ICTs. Second, individuals unable or unwilling to receive education at schools or colleges are being excluded from the opportunity of having access to ICT and the training required to obtain the skills necessary to use ICTs. The Niger Delta Development Commission (NDDC) provides computer skills training in some of the communities, and one of the criteria for acceptance is that candidates must have a minimum of GSCE level of education. So, people with low education levels are excluded from acquiring the skills required to effectively use ICTs. These may well be those who have most potentially to gain from such technologies.

A clear correlation between education levels and ICT use was revealed from my research. All the people who use computers or the internet were educated above secondary school level. I did not find anyone with just a primary school education only who had used the internet. Radio was the only technology that people of all educational levels used. This is because some of the radio programs are in the local language, so people do not have to speak English to understand them and they can relate to a lot of the contents and themes. Previous research has established that advanced education influences an individual's capability to use technology (Alavi, 1994; Davis, 2000; Piccoli *et al.*, 2001). Some scholars even go as far as to argue that people with low educational levels are incapable of effectively using ICTs due to low levels of literacy (Selwyn, 2002; Revenaugh, 2000; Cullen, 2001). This position is extreme and evidence from research such as mine contradicts it. I found that although mobile phones were used mostly by educated people, those with little or no education were using mobile phones effectively in their everyday lives. Less educated individuals however demonstrated less interest in adopting and using

other ICTs as also demonstrated in previous research (see Oswald, 2002; Hoffman and Novak, 1999)

6.6.5 Age

Theories of technology adoption (Agarwal and Prasad, 1998; Brown and Venkatesh, 2005; Mbarika *et al.*, 2005) point to age as a factor that influences when and how an individual adopts new technologies. Studies such as Appelbaum (1990) and Selwyn (2002) on cyber phobia indicate that age is a key factor in the adoption of technology, with older people tending to exhibit higher phobic levels. Consequently, older people tend to adopt new technologies much more slowly than younger users (Appelbaum, 1990). Increasing age is closely related to lower levels of ICT adoption and use (Selwyn, 2002). Evidence from my research supports this view. All the respondents who claimed to have used the internet or computers are under the age of 40. As Appelbaum's (1990) study proposed, the older people are less willing to try new technologies. A lot of the older people were quite intimidated by the prospect of using one because they perceive that high technical skills are required to use them. The older people are more set in their ways and are not willing to change the way they do things. A majority of them made statements like "*Train our youths, that is what we want*" (Mbiaya Uruan, Male, 50s, Plumber) or "*I want my child to learn how to use computer; me, I am old.*" (Ogbia, Female, 50s, Seamstress).

6.6.6 Lack of Skills and Capacity

Among the people who do not use a computer, reasons for not doing so include lack of knowledge on how to operate computers. 73% of those that do not use computers say it is because they lack the skill and capacity to use them. Due to this lack of skills, about 25% of those who claim to use computers get other people to operate the systems for them. In business centres and cyber cafés there are customer service attendants who type and access emails for people. There is an extra charge for this service, but the people have no choice because they lack the skills for this service. It was observed in some cyber cafés that a lot of money is being made from offering services like this although increasingly more and more people are now learning to use computers. Especially for candidates who have just completed their secondary school and are awaiting results. The examination board does exam registrations and results strictly online. A lot of people have been forced to learn the

skills required to use computers as more services including job and scholarship applications are being done online.

6.6.7 Cost of Access

While investigating the factors that influence the adoption and use of ICTs, cost was mentioned frequently in one form or another by the respondents. Cost of access and perception of cost are important factors in ICT use. Internet use is very limited because cyber cafés are not widely available and travel costs is included with airtime costs. Some people have the perception that it is very costly and do not even try. One respondent said *“it is expensive, though I haven’t use the internet before but I heard it is quite expensive to use”* (Ogbia, Female, 43, Trader). Another commented that *“it is quite expensive to get access to the internet especially when you have a lot of research to do”* (Anua, Male, 20s, Student).

Prepaid phone cards (top up cards) cost from as little as N100 (4p) to N1500 (£6). There is a mobile phone culture in Nigeria called ‘flashing’ which means that you save money by not always talking to people on the phone but instead calling them and letting it ring once or twice without the person picking up. Pelckmans (2009) refers to ‘flashing’ culture as a topical example of local context shaping phone use in West Africa. Similarly Hahn and Kibora (2008) attribute this to cultural differences in the local appropriation of mobile phones. Pelckmans (2009) also cites a Malian phone credit seller who compares flashing to tapping someone’s shoulder or winking at them. In Nigeria though, when someone flashes it is often more than a metaphorical ‘digital blink’ but a request to call back or send some message or signal to the receiver. Flashing has a code of its own depending on the context of relationships and the identity of the caller. For example if you are scheduled to be at a community meeting and you are late, if a member flashes you once you know they are waiting for you. The vigilante groups do intermittent flashing when there is an emergency, and the others understand. Within families and friends the number of times you flash can communicate to the receiver if you are just saying hello or you want them to call you back. ‘Flashing’ was started to reduce the cost of calling, while at the same time being able to connect and interact with people regularly.

The cost of power generation and inconsistent power supply also mean that people do not watch televisions regularly and cannot charge their mobile phones. For some

communities that are struggling for daily survival, spending money to access the internet or buy credit for their phones is simply not a priority.

6.7 ICT INTEGRATION AND IMPACT

My research showed that the greatest area where ICT is impacting on community systems is in strengthening social networks and social interactions. ICTs further reinforce the social structures of these communities. They enhance and foster community relationships. The social ties within these networks may enable the potential benefits of ICTs to become embedded more easily within the people's everyday experience (Loader *et al.*, 2000). This is evidenced by the following excerpts from the interviews, all of which particularly emphasize the value of ICTs such as mobile phones:

“It has improved the good relationships amongst people in this community” (Amasoma, Male, 26, unemployed).

“Yes, it help people to interact well in the community even when they don't have to see the person you can either 'flash' or call to show that you have concern for the person” (Ogbia, Female, 43, Trader)

“I have known so many faces and people when they come to make calls” (Amasomma, Female, 22, Call Centre Operator)

“People leave their house just to come and watch ball at the football club not because they do not have a TV in their house but just to relate and share views” (Mbiaya Uruan, Male, 35, Viewing Centre Proprietor)

ICT use also helps the community to learn new ways of doing things and new behaviour. Information received from the radio, particularly health and hygiene information, has impacted community behaviour in sanitation, and disease control. One example is the public announcement about the need to boil water before drinking to curb typhoid spread. One respondent said: *“it gives everybody information about the events happening in different community and how they overcame such problems so the community can learn from it.”* (Mbiaya Uruan, Male, 35, Civil Servant)

Mobile phone and radio use makes information dissemination easier in the communities as was evidenced in Amassoma where they have incorporated radio broadcast into their public address system. The following excerpts demonstrate this:

“it helps circulate information faster. As I am hearing it, every other person is hearing it” (Amasoma, Male, 26, Unemployed)

“if there is an urgent information to be sent around to key members of the community. You can simply send text messages without having to leave the house. Security wise, also by alerting the police in case of emergency.” (Mbiaya Uruan, Male, 26, Unemployed)

ICT use also affords the people the opportunity to connect to the rest of the world. They are not completely cut off from happenings all over the world. Typical comments were:

“It helps to connect people of this community to the rest of the world” (Anua, Male, 26, Unemployed)

“We become more enlightened about the world around us and not become walking corpses due to lack of information in health issues”

(Amasomma, Female, 26, Trainee Nurse)

There are also tangible benefits of using ICTs for individuals in these communities. Some people saw it as a tool that helps learning; one respondent said *“it can give everybody information about the events happening in different communities and how they overcame such problems so the community can learn from it”* (Mbiaya Uruan, Female, 39, Teacher). A couple of respondents also thought it can be useful in building capacities and personal growth and can also provide an opportunity for wealth creation. Some cited the fact that many people now earn an income from running call centres. Profits are marginal and competition fierce, but people eke out a constant income from offering these services.

ICT use is also strengthening the sense of identity people have with their communities. There are indigenes who work and live outside their communities and ICT use is keeping them connected to happenings in their communities, and are committed to

the development of their indigenous communities. In this way ICT is also helping to strengthen diaspora bonds. Building connections to other indigenes in the diaspora is very important in the development of these communities. Hometown associations abroad contribute to the development of their communities of origin because cultural questions of identity and belonging shape developmental obligations and flows (Mohan, 2006). Trager (2001: 8) notes that “despite an increasing interest in development circles in community-based, local, grassroots development, there has been little attention paid to the role of those from a community but not currently residing in it”. MacGaffey and Bazenguissa-Ganga (2000: 134) likewise argue that “what is new is that making use of kin overseas is becoming an essential strategy for survival and improving life for some populations”. Hometown associations link the birthplace of migrants to a partner organisation in their place of resettlement and are largely development oriented (McNulty and Lawrence, 1996; Orozco, 2003). Barkan *et al.* (1991) see these organisations as fulfilling various roles including being reservoirs of 'civil virtue', as a shadow state, as defence against state power, as local growth machines, as brokers between state and local society, and as ways of reaffirming attachments to place.

A good example I came across during the course of my research is the *Ibom Peoples Congress (IPC) USA*, which is a grassroots organization whose membership is made up of Akwa Ibom citizens around the world, most of whom reside in the United States of America (see <http://www.ibompeoplescongress.org>). They also run a discussion forum, which was set up to promote communication among Akwa Ibom organizations, Akwa Ibomites around the world. IPC is involved in the struggle to achieve structural change and free the people of the Niger Delta, particularly Akwa Ibom people, from decades of environmental pollution, unjust socio-economic structure and political oppression. Their advocacy and activities online has attracted the attention of the government and other citizens in the diaspora. ICTs are enabling these connections between citizens at ‘home’ and those abroad. These connections have positive benefit for communities as they are becoming more aware of global issues like HIV/AIDS, environmental degradation and human rights and have mobilized themselves to address some of these issues.

Another area where the impact of ICTs especially mobile phones is greatly felt is with respect to the security of citizens and the communities. The Nigerian Government is very ineffective in protecting their citizens from health hazards and crime. So citizens have

been forced to find ways to fill this gap by defending and protecting their own communities and ICT is playing a crucial role in that process. Mobile phones are being used effectively by vigilantes for security and pass around health and security alerts.

Evidence from my research shows that while ICTs such as mobile phones and radio are being integrated into the social fabric of the community, computers and the internet are yet to have any real impact in the communities. There is still a long way to go before ICT can begin to meet the information needs of these communities, because they do not have input on content, which is designed by others who may not be sensitive to the needs of the people. These initial positive developments of ICT use show that there is great potential for ICT if appropriately deployed to meet community information needs.

6.8 CONCLUSION

This chapter has sought to understand the web of interpersonal and media (new and old ICTs) connections that people construct in the course of everyday life by examining ICT media in context, so as to be able to assess their relative importance. It built on Foth and Hearn's (2007) communicative ecologies model, focusing on the threefold structure of - social, discursive and technological.

Mobile phones serve as a significant practical supporting technology, helping people organise their lives. They are useful for coordinating social networks and, perhaps more importantly, were essential in times of crisis as a technology for support. My research also found that although people could evaluate the benefits of these technologies and their potential usefulness, many did not actually think about ICTs in their day-to-day life.

The findings suggest that there are many factors that limit ICT use in these communities with the most critical ones being cultural influences and people's attitudes towards the technologies. The study found tangible benefits derived from ICT use on the communities, but not on a level to impact development outcomes greatly. For ICTs to play a more meaningful role in the sustainable development of Niger Delta communities, ICT strategies need to include:

1. Ways in which ICTs can be used to facilitate the creation of social ties,

2. Means to customise existing ICT tools and facilitate community building and contribute to the establishment of a community network; and
3. The development of purpose-built solutions and processes, which take the specific requirements of the indigenous community, into account.

The knowledge gained from this study contributes to the understanding of the interaction of ICT with the communities' communication ecology, aimed at pinpointing the ways in which ICTs can help make the transition to sustainable development easier, quicker and more appropriate. It also sets a foundation for the participatory exercise documented in Chapter 7 which involved a diversity of community members, discussing their needs, the ICT recourses available to them and how these technologies can best be utilised to meet their collective goals for the future. As Ramirez (2001) argues, for communities to be sustainable they need to define what they want to be, where they want to go and ICT tools need to be harnessed towards those agreements. The value of ICTs should be found in community-owned activities and communication spaces where issues relevant to the community are addressed.

REFLECTIONS – Ethnographic Study

A key finding which can be gleaned from the preceding chapter is that ICTs are not currently being used at all widely to enable community processes and not integrated into local information systems even though there is evidence that there is individual use of ICT media. Apart from mobile phones and radios other ICT tools were not a part of the people's way of life. The information seeking behaviour of my research participants revealed a natural inclination to seek information from sources that were familiar, personal and local. Apart from a few students who used the internet occasionally to search for information for school work, people did not consider the internet as a useful source for information. People preferred to adapt whatever media they chose to meet their own needs and this was usually done with little or no extra cost, such as the 'amasomma radio' (see Figure 6.15) and mobile phones for community policing (Section 6.5.2). The ethnographic study also revealed the role that local leaders play as information brokers in their communities, so I decided on two different formats of focus groups in the next phase to enable me to manage the process effectively and to separate the people from the leaders to ensure freedom of expression.

In trying to analyse and interpret the findings of the communicative ecology, I explored different ICT for development frameworks including, Sein and Harindranath's (2004) framework, Heeks (2002) framework, Unwin's (2009) framework. I however found Weigel and Waldburger's (2004) framework most suited to community development initiatives as it addresses the research aims and the sustainability goals highlighted by participants which focuses on access, networking and giving people a voice. I therefore refined the conceptual framework to reflect this focus (see Section 2.5.3).

During the ethnographic study I paid attention to observe those processes that create opportunities for ICT use, such as communication networks, interactions, information exchange activities, public broadcast and communications, community meetings. While making sense of the data generated I also engaged with key literature on emerging concepts such as Pinch and Bijker (1987)'s work on social construction of technology (SCOT); appropriation of technology; domestication of technology; mobiles for development (M4D) and community informatics. I especially explored in the literature how radio and mobile phones which are the most widely used technologies in the Niger Delta, are currently being utilised for development in other regions and how effective these initiatives have been. In the third phase of fieldwork I was to contribute my own framework to the discussions based on my knowledge of the field and the analysis of the findings from the two previous phases (see Section 3.4.3 and Figure 3.4).

One of the methodological issues I had to deal with was designing the participatory discussions format in a way that would lend itself to rigorous analysis. I therefore set four key parameters for the discussions in the next phase of field work. First, I wanted there to be clarity on sustainability goals as negotiated by the participants; second, discussions should address the identified barriers to information access discussed in Chapter 6; third, discussions should be based on community self help not on government interventions because this is likely to be more sustainable; and fourth, discussions should explore ways in which ICTs can become more embedded in the community information systems outlined Section 6.3.2. Based on this, I developed a framework to guide the participatory discussions in the next phase. The framework I developed consisted of talking points to get discussions started (see Appendix G). In Chapter 7, I present the findings of this participatory exercise.

CHAPTER 7: Engaging Communities through Participatory Action Research

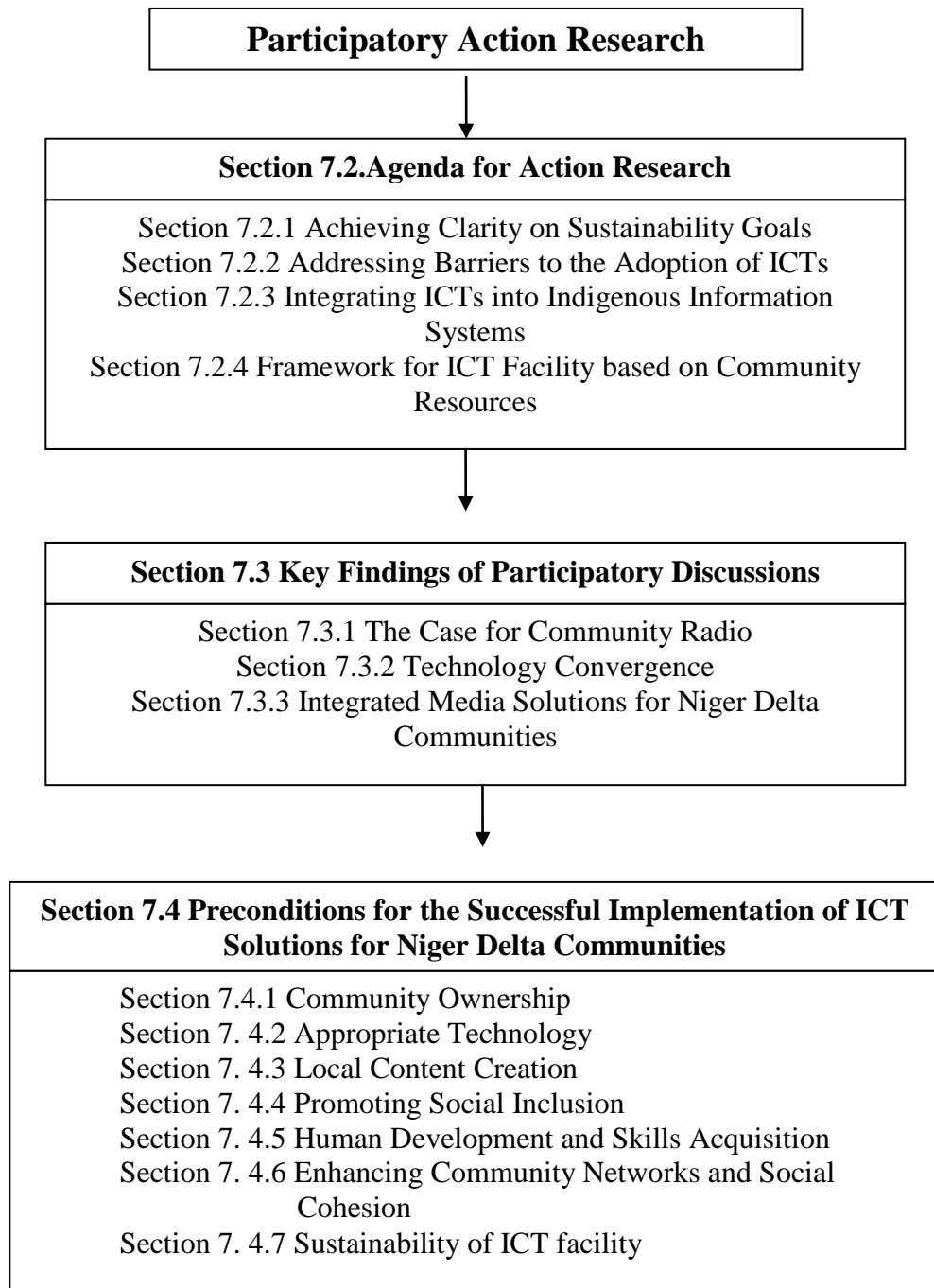
7.1 INTRODUCTION

This chapter documents the findings of the Participatory Action Research (PAR) conducted during the final phase of my field work. This formed part of the overall participatory framework of the research based on the cyclical grounded theory approach outlined in Chapter 2. The PAR involved a diversity of community members, to incorporate local knowledge and ideas to enhance individual, group and community empowerment. This was done mainly through focus group discussions and critical reflection workshops, which were designed to create new knowledge about community development including exploring people's needs, the ICT media available to them and how these technologies can be best utilised to meet their collective desires and goals for the future. Emphasis was placed on how ICTs can best be utilised to sustain the desired futures for their communities that do not compromise development for future generations. To explore answers to these questions, the participation of the research subjects in the solution finding process was crucial to the outcomes. This involved 8 focus group discussions and workshops in the same four communities where the ethnographic study was conducted. Two series of group meetings were held in each community. The first was with the general public including market women, fishermen, farmers, and civil servants, and the second series was with the community leaders and gatekeepers. These highly participative exercises involved 143 people in the four communities of: Mbiaya Uruan, Anua, Amassoma and Ogan Amah (see Section 3.4.3.1 for more details).

The chapter is structured in five parts. I start by outlining the agenda for the action research, identifying the key goals it set out to accomplish, and provide the context for the analytical concepts that emerged from the discussions. In the second part, I discuss these concepts, situating them in the wider context of the literature on ICT for development. This is followed by a discussion of a technology blending concept which focuses on radio as the focal point for local development supported by mobile technology and the internet. I then outline an integrated media framework for ICT for sustainable communities' development in the Niger Delta that is the outcome of the action research. In the final part

of the chapter, I present preconditions for the implementation of ICT facility in the Niger Delta. Figure 7.1 is a schematic representation of the Chapter.

FIGURE 7:1 Chapter Overview



7.2 AGENDA FOR ACTION RESEARCH

The findings presented in Chapters 5 and 6 indicate that the nature of communities in the Niger Delta is different from the ways in which communities tend to be conceived in the West. In particular, community members ascribe different meaning to sustainability and it was clear that ICTs are not yet sufficiently embedded in these communities to have a meaningful impact on their sustainability. Gurstein (2001) argues that if ICTs are seen as providing a community service, then ongoing sustainability (of ICTs) can be understood within the context of the ongoing sustainability of other community services and can then draw from whatever resources the people have to support those services. Drawing from such arguments and the evidence from my research that supports this notion, a key focus of the PAR discussions was to identify ways in which ICTs may be sufficiently and visibly embedded in a community so that they are recognised as an important component for sustainable community development.

The purpose of these discussions was to map out visions and roadmaps for sustainable development of Niger Delta communities, specifically in the context of ICTs. My strategy was to help people to reflect on the keys issues with regards to the possibility of how ICTs can empower them and aid the development of their communities. I presented the findings from the preliminary studies conducted in the nine communities where I worked, that reflected the nature of their communities, patterns of behaviour and an understanding of the communicative ecology of their communities. This was the starting point for discussions, and a clear agenda was identified for critical dialogue. Four main themes were addressed:

- Achieving clarity on sustainability goals.
- Collectively identifying ways to address barriers to ICT adoption.
- Integrating ICTs into indigenous information systems.
- Developing a framework for ICT facilities based on available community resources.

This agenda was reached through a collaborative process that developed over the course of the action research process and was refined as the discussions progressed. This set the parameters for our discussions and is now explored in the ensuing sections of this chapter. To provide a background to these discussions, Tables 7.1 - 7.4, presents highlights of the discussions in the four study sites.

TABLE 7.1: Discussion Highlights in Ogan Amah

OGAN AMAH COMMUNITY			
GROUP TYPE	SIZE	TIME	DISCUSSION THEMES/HIGHLIGHTS
Public Group Workshop	22	205 minutes	<ul style="list-style-type: none"> • Initial discussions on aims and goals of research • Drew up some agenda for discussions • Analysis of findings from phase 1 and 2 of field work. • Factors influencing ICT use • How ICT facility may enhance transparency and accountability in Shell community development activities and limit corruption by community representatives. • ICT use and ranking exercises
Leaders' Focus Group	11	113 minutes	<ul style="list-style-type: none"> • Presentation of key points from group A discussions. • Build upon framework for discussions. • Discussions about available community resources and role of leadership in community development activities. • Environmental degradation, advocacy activities constantly highlighted. • The need for ICTs to support community cohesion and social organisation. • Some comments on technology blending. • Involvement of Shell in development planning and implementation.

TABLE 7.2: Discussion Highlights in Anua

ANUA COMMUNITY			
GROUP TYPE	SIZE	TIME	DISCUSSION THEMES/HIGHLIGHTS
Public Group Workshop	32	95 minutes	<ul style="list-style-type: none"> • Aims and goals of research • Discussions and analysis of current ICT usage patterns • Building on discussions on technology blending, some discussions on an integrated model. • Dues as a means for supporting ICT initiatives, radio can be run as a commercial outfit to raise funds for maintenance. • Local government should be involved in all planning and development to ensure sustainability. • ICT Use and ranking exercises.
Leaders' Focus Group	5	90 minutes	<ul style="list-style-type: none"> • Presentation of key points from group A discussions. • Very receptive to the notion of community or information centre. • Acknowledged importance of participating in the global information highway. • Ideas on blending phones and radio for information exchange.

TABLE 7.3: Discussion Highlights in Mbiaya Uruan

MBIAYA URUAN COMMUNITY			
TYPE	SIZE	TIME	DISCUSSION THEMES/HIGHLIGHTS
Public Group Workshop	28	150 minutes	<ul style="list-style-type: none"> • Aims and goals of research. • Discussions and analysis of current ICT usage patterns gathered during the course of the research. • Building on framework for discussions. • Poverty, lack of skills and education highlighted as major constraints for ICT use. • Focus on how ICTs can support livelihood strategies. • Interested in how radio and mobile telephony may be utilised for community development. • Resistance to high end technologies, community radio highly desired. • Concerns about maintenance of ICT facility such as community radio/telecentre. • ICT Use and ranking exercises.
Leaders' Focus Group	5	95 minutes	<ul style="list-style-type: none"> • Presentation of key points from group A discussions. • More interested in infrastructural development, ICTs not considered a key priority for their community. • Proposed free ICT services with support of donor funds. • Radio service will hold local government accountable.

TABLE 7.4: Discussion Highlights in Amassoma

AMASSOMA COMMUNITY			
TYPE	SIZE	TIME	DISCUSSION THEMES/HIGHLIGHTS
Public Group Workshop	31	100 minutes	<ul style="list-style-type: none"> • Aims and goals of research. • Building on discussions of an integrated media model. • Making connections between sustainability goals and ICT use. • Some discussions around current ICT usage patterns • Ideas about combining a cyber cafe and radio station for community benefit. • Internet access greatly desired. • Expanding and building on 'Amassoma Radio'. • Online presence desired. Community website suggested to support fund raising and to make their voices heard globally. • ICT Use and sustainability goals ranking exercises.
Leaders' Focus Group	9	95 minutes	<ul style="list-style-type: none"> • Presentation of key points from group A discussions. • Discussions on the role of leadership, available community resources. • Greatly desired an ICT model which they could implement by themselves with support from the oil companies working in their community. • Ideas for a model on blending radio, mobile phones and the internet for community benefit.

7.2.1 Achieving Clarity on Sustainability Goals

Clarifying the sustainability goals of the people was of primary importance. Several authors have also argued that this is a useful starting point, proposing that consideration must first be given to what a group of people living in a geographic defined area consider important, how they want to achieve those goals and what they judge their success by (see Unwin 2009; Hearn, *et al.*, 2004; Simpson and Hunter 2001; Stellar 2002; and Gurstein 2001). Gurstein (2001) further makes clear that not only does sustainability mean different things to different groups, but also that these understandings can derive from the purposes for which ICTs are seen to be used and from the ideological positions of those users.

Niger Delta communities face substantial problems in initiating development, let alone sustaining it. Yet despite the tremendous natural and human resource base, the region's potential for sustainable development remains unfulfilled (Omotola, 2006). During discussions many reasons were cited for the lack of sustained development in the region. Some arise out of the internal conditions of indigenous communities, cultural and organisational environments. Others arise out of the wider external political, policy and socio-economic environments within which these communities operate, and particularly the extraction of oil (Watts, 2004). Federal, state and local government policies and services are very poor and inefficiently delivered. My research focused on addressing the internal factors that could aid development. Participants were directed, during discussions to *"think not what the government can do for your communities, but what you can do for your communities with the resources currently available"*. This established the parameters for clarifying sustainability goals. The focus was on addressing local needs and interests. These interests included discussions on oil companies' activities in their community, specifically environmental degradation. This issue was discussed extensively in Ogan Amah, where Shell has built pipelines across the farmlands and in the sea where the people fish, and because of this the people have suffered oil leaks and are forced to live with the constant flaring of gas (UNDP, 2006). This brought the issue of advocacy and collective action to the fore and directly affects the sustainability of communities in the Niger Delta. Discussions then turned to how ICTs can support advocacy and collective action.

Building on the local constructions of sustainability documented in Chapter 5, participants further highlighted other issues they considered a threat to sustainability.

These included migration of citizens from their communities to city centres and the human capital flight of the individuals with technical skills or knowledge to support the development of their communities, due to lack of opportunity and the quest for a sustainable livelihood. One of the key goals for community sustainability was retaining human capital resources. One participant thus said

“If we train people on how to use computers to benefit us, they will later use this to go to Port Harcourt to get good jobs. If we want this thing to work we must train people who will support us and stay here” (Female, 50s, petty trader, Ogan Amah).

This kind of sentiment was frequently reiterated during the group discussions. Many people expressed the desire to have a vibrant young population in their communities if they were to remain sustainable. My earlier research in the communities had shown that the population of people over 50 years old was high, and these participants identified the lack of opportunities and the isolation of communities from the city centre as the major reasons for this. During this segment of the discussions, participants were asked to participate in a ranking exercise to rank the previously identified sustainability goals on a scale of 1-10 based on level of importance, with 1 being the most important to them and 10 being the least important. Table 7.6 is the result of the ranking exercise, reflecting the views of people in all of the communities studied. While the ranking varied between communities, the table is based on the total ranking from all four communities.

Respondents acknowledged that these goals could not all be achieved through the introduction of ICTs alone, and this led to discussions about how ICTs could be used as supporting tools, rather than as ends in themselves. In later discussions, infrastructural development was taken out of the list as this was considered something that the national government should seek to implement.

TABLE 7.5: Sustainability Goals Rankings

GOALS	RANKING	%
Education	1	24
Capacity Building and Human Development	2	20
Infrastructural development	3	14
Equity and Participation	4	12
Creating opportunities for young people	5	11
Community Cohesion and Collective Action	6	11
Preservation of Indigenous customs and cultural values.	7	5
Technological advancement	8	2
Interconnections with state, national and international development.	9	1

7.2.2 Addressing Barriers to the Adoption of ICTs

The findings on ICT usage patterns documented in Chapter 6 identified several factors that influence the adoption and use of ICTs. The most important of these were attitude and perception of ICTs, technical skills, access costs, level of education, age, gender, cultural influences, infrastructure, and perceived usefulness.

Identifying ways to overcome the barriers to ICT adoption is not a task that can easily be achieved merely in a series of workshops and focus groups discussions. Participants were unable to address factors such as accessibility and infrastructural provision. Hence, the purpose here was instead to explore ways in which the people could actually help themselves by addressing individual and internal factors such as attitude and perception of ICTs, age, gender, cultural influences, perceived usefulness and accessibility.

My research revealed that the participants did not see ICTs as being integral to their survival and development. This was most obvious in poor, rural communities such as Mbiaya Uruan. The people here did not even see the relevance of participating in these

focus groups. They wanted the development of other services such as schools, health centres and roads. This notion is also echoed by Simpson and Hunter (2001) who note that in communities whose main business is focused on survival, ICT uptake will be slow. One participant thus said:

“What will I use computer for? Will it give my children food and pay their school fees. If you want to help us, give our children jobs”
(Female, 50s, petty trader, Ogan Amah).

Participants also felt that even if they were trained and had the skills to use computers it would not be beneficial as they have no power supply, and computers were out of their reach because they were not available in the communities and they could not afford them, in terms of access costs and power generation. One participant said

“I have never seen computer in this community, nobody here has one. When I went to the local government office, I saw one and they said it was computer” (Male, 40s, chemist, Mbiaya Uruan).

These kinds of responses always prompted me to tell participants about other economically poor communities where people are indeed using computers and I pointed out the role that information can play in empowering citizens. I also clarified that computers are not the only ICTs, and that radio, television and mobile phones are also included under this heading. Radios, televisions and mobile phones were well received even in poor communities because they were technologies that people could identify with and knew about. About one third of the people in Mbiaya Uruan, for example, use radios and phones, and so they were interested to discuss further how these technologies could be made more useful to their communities. When prompted to discuss why they were more interested to use radio and phones instead of computers, the responses included

“because I have phone” or *“my brother has phone and I can use his own”* or *“we have radio in our house we listen to”* (Mbiaya Uruan)

This brings to the fore the issue of appropriate technology, which I explore further in Section 7.4.2 below. There was a general consensus that people would like to learn how to help themselves using technology. In this context, one of the key points raised in

addressing cultural and attitudinal barriers to ICT use was enlightening leadership and community organisations. One woman from Ogbia thus said

“All these things we are discussing, the problem is not us, if our leaders are interested and they know the benefit they will organise all of us and everyone will get involved” (Female, 35, Hairdresser, Ogbia).

The involvement of local and community leaders in planning and development greatly affects the outcome of any ICT initiative in communities. The role that the local leadership plays in the lives of community members was identified earlier in the research, and this was one of the reasons why there were two group discussions held in each community, one with the community leaders, and the other without them. In addition to the involvement of local leadership, the stakeholders identified awareness raising through community meetings as another way to address the cultural and attitudinal barriers to the adoption of ICTs and they were willing to do this if it would benefit their people. They also suggested that community organisations and age grade meetings were a strong influence in the people's lives, so they could be involved in explaining the benefits of using technologies to the people. They were convinced that this would change the mindset of the people and address the cultural and attitudinal barriers to the use of technology.

7.2.3 Integrating ICTs into Indigenous Information Systems

Agenda 21 (ICLEI, 1996) dedicates a whole chapter to the role and importance of information for sustainable development, and addresses the need for strengthening the capacity for traditional information sharing. It urges local communities to benefit from the mechanisms that provide them with the knowledge they need to manage their environment and resources sustainably, applying traditional and indigenous knowledge and approaches. The appropriate use of ICTs is one of the mechanisms through which this can be achieved.

The indigenous information systems presented in Chapter 6 (see Figure 6.8) shows that new ICTs are not currently being used widely to support community processes in the Niger Delta. Based on the understanding that ICTs are not currently integral to a community's survival, the discussions towards the end of my research also aimed to identify ways in which ICTs could be utilised to enable and support community processes

in the future. One of the frameworks for doing this is the development of strategies and applications that explicitly integrate ICTs into indigenous information systems. This could inspire local ownership and ensure sustainability of ICT projects.

Participants in the public groups were asked to itemise community processes that require the exchange of information, and the most important of these were identified as being:

- Briefings and news from community leaders including dispute settlements
- Information from out of town
- Information on community social events such as competitions and ceremonies
- Health information from homeopathic practitioners and other community members
- Information on 'age grade' activities (age grade are associations in the communities where membership is based on age and gender)
- Activities of community organisations and welfare groups
- Community development activities from leaders
- Local government information
- Market prices for farm produce and fisheries
- State government information and opportunities like micro credit
- Information about the oil companies community development activities
- Opportunities like training, scholarships, jobs and micro credit.
- Information on self organisation and advocacy activities.

After participants identified the above information exchange activities, they were asked to think of ways in which television, radio, computers and mobile phones could be utilised as vehicles for exchanging these kinds of information. They were also asked to participate collectively in groups in an exercise where four boxes were set up to represent the different ICT media and they were given bits of papers with these information exchange activities on and asked to place them in the most suitable ICT media box. They were told that they could duplicate the same activities in multiple boxes. The outcome of the exercise revealed that mobile phones had over 40% of the bits of paper, and radio had over 30%. In a couple of sites radio had only one or two community activities, television had two activities and the computer box was empty in three sites (Table 7.6).

TABLE 7.6: Results of ICT media exercise

Television	Radio	Computers/Internet	Mobile phones
Information from outside the community	Opportunities like training, jobs and micro credit facilities.	To send information abroad about what is going on.	Briefings and news from community leaders.
State government information	Information from outside the community		Information from community associations
	State government information		Information about 'age grade' activities.
	Information on community social events		Information on community social events like competitions and ceremonies
			Opportunities like training, jobs and micro credit facilities.
			Information on community social events like competitions and ceremonies

After the exercise, over 30% of community information exchange activities were not placed in any box. Activities such as information about the oil company's community development activities, NDDC development activities and local government information were left out of the boxes completely in Anua. In Ogan Amah when I asked why information about the oil company's community development activities was left out, one woman responded like this.

“who will tell us, na where we go hear am from, when our representatives collect the money from Shell to help our community, nobody tells us so how will we tell people through phone, I don't know if that kind information is in computer, but even if who will operate it and tell us” (Female, 50s, petty trader, Ogan Amah).

UO: *What about NDDC projects, I know they have given money to consultants to train your youths on using computers.*

“For where, we no know that kind thing”- Translation- When, where we have not heard of such project (Female, 50s, petty trader, Ogan Amah).

This led to discussions about transparency and corruption and ways in which ICTs may be utilised for transparency and information on local development activities. I suggested that a community website where information on oil Company’s and NDDC development activities could be documented. The participants acknowledged that manpower and resources required for the sustenance of such project were not available. A participant in Ogan Amah said

“Who will pay for it and maintain it and how will they be getting this information” (Male, 32, Commercial motorcycle rider)

At this point, the chief’s son interjected and said it was possible with the support of Shell because they would be interested in funding such a project.

Some participants did acknowledge that there were benefits from using computers as evidenced in the quotations below.

“If we can use computer is it good. Every thing now is about computer that is why all the youths now are trying to go to computer school” (Anua, Male, 40s, trader)

Computer school referred to here, are places where ‘desk top publishing’ is taught. Which is basic skills on Microsoft Word, sometimes Adobe PageMaker is added. And you are considered computer literate if you can do this.

Yes it will help, for example for assignment from school you are told to visit the internet how do you do that if you do not have basic computing skill. (Mbiaya Uruan, Male, 38yrs, sells telephone accessories)

I was curious as to why the computer box remained empty in some cites even though the people acknowledged the benefits of using computers in this age. The young men who were familiar with computers said that although they had used computers before, they

could not be used for any of community information exchange activities. One young man said:

“Computer can be used for many things, but you said we should put these papers in the carton. These particular things here, we cannot get from the computers, that is why, not that computer is not good for us.” (Mbiaya Uruan, Male, 20s, unemployed)

A couple of participants said that computers have no relevance for the farmers and fishermen. Some know that there is an internet café in town where people go to send messages abroad. Yet two people in Mbiaya Uruan claim that they have never seen a computer, as computers were never available as part of their education. Almost all the participants knew about the internet, or a system by which a person can send a message through cyberspace, although some did not quite understand the concept. However, there appears to be a general consensus and disbelief that a computer could improve the current state of their lives. People’s attitudes towards computers are reflected in the following quotations (statements in italics are direct quotations, followed by my translation in normal font)

“Na wetin be computer, na im go feed my children or na aim go pay their school fees.” (Female, 30s, trader, Mbiaya Uruan).

Translation - What is computer? Is it going to feed my children or pay their school fees?

“I no get computer, I no know anybody for this dis community wey get computer, wetin I wan use am do?” (Male, 30s, chemist, Mbiaya Uruan)

Translation - I don’t have a computer, and I do not know of anyone in this community that has one, what would I use it for?

When discussions turned to other ICTs especially the more traditional ones such as television, radio and even mobile phones, people’s attitudes were more accommodating. However, participants could not even begin to comprehend what these technologies had to do with their ‘development’. Radio and television were mostly viewed as sources of

entertainment and relaxation, and mobile phones as a tool for communication. One participant said:

“Ehen!! If na radio and phone we get am for here, but how dat one go take help our development as you talk?” (Male, 43, civil servant, Ogan Amah)

Translation - Ok, if you are referring to radio and phones, yes we use those here, but how can this help our development as you are suggesting.

This kind of response usually led to my sharing with the people how radio, internet and mobile technologies were currently being used for community development elsewhere, as with the Kothmale Radio in Sri Lanka (Dagron, 2001a), and mobile phones for environmental monitoring and education (Banks and Burge 2004). When these examples were cited during discussions, the people started to become more interested and were quite excited about the prospect of having similar activities in their own communities. The idea of a locally owned radio station with internet access excited the people the most. One participant said:

“then we can learn from the world and the world can learn about us and our culture” (Mbiaya Uruan, Female, 40s, teacher)

Another said

“Na now wey you dey talk” (Male, 43, civil servant, Ogan Amah)

Translation - Now what you are saying makes sense.

The results presented in Table 7.6 usually sparked an intensive discussion on the pros and cons of specific ICT media, highlighting which technology was most appropriate and how they can best be used to achieve their goals. The most cited reasons for not being able to place activities into certain boxes were:

- The lack of locally relevant content.
- Availability and accessibility of the technology.
- Appropriateness of the technology.
- Sustainability of ICT media.
- Lack of control of the technology.
- Lack of skills to use the technology.

These issues must be considered before any ICT for development initiatives are implemented in these communities, and the implications of these findings are discussed in more detail later in Section 7.3 and 7.4.

7.2.4 Framework for ICT Facility based on Community Resources

Developing a framework based on available community resources (such as skills, manpower, location and finances) was a key agenda of the discussions. Participants noted that many government initiatives were unsustainable, and they cited frequent instances where facilities have been provided for the people but were later abandoned. One participant thus commented that

“The problem with Nigeria is that we do not have maintenance culture, we will start something but two years later when you go back, it is no longer functioning. They supplied us with trawlers and farming equipment, we used it for sometime after that it is not working, we don’t have the parts to maintain them, they are all abandoned, my questions is this project you are talking about how would we maintain it” (Male, 32, Fisherman, Amassoma).

This comment encapsulates the purpose of this aspect of the discussions. Such sentiments imply that, for a project to last a long time, a plan for sustainability needs to be built into the plan at the very beginning. Participants were asked to reflect on how they sustain other development initiatives, and to identify projects that they as a community support and how they do this. The idea was to help them identify and assess their strengths and weaknesses and the resources available to them, so that they can make informed and realistic choices in identifying ways in which ICT projects could be used effectively and become more sustainable.

According to Sen’s work (1999) the *freedom* to make meaningful choices between various options is the essence of development and a precondition for personal well-being. As a means to ensure quality, appropriateness and sustainability of projects, Berner and Phillips (2003) also note that the key word is *ownership*: by being involved in the design and production of facilities poor people can feel more responsible for their maintenance.

The outcomes of this discussion revealed that poor communities in the Niger Delta are not passive in the development process. Due to the lack of infrastructure, government aid and economic opportunities, the people have had to learn to rely on themselves for the services that they consider important. For example, there were some projects that had been initiated and fully funded by the communities themselves. Most notable among these were the micro-loans given to poor members in the community by cooperatives and community associations as seed money for businesses. In some communities there are programs for poor widows, who are given community farmlands for farming, either in the form of loans or outright gifts. In Mkpoku Eyokan, for example, the people contributed whatever resources they had to build a classroom and buy chairs and desks for their local primary school (see Figure 7.2). In other communities, welfare organisations fund training and manpower development as well as scholarships for the youths. When electricity cables are down, the people contribute money through their families to the leadership to get them fixed; when roads are flooded and not motorable, community organisations contribute money to hire a grader to fix them. Apart from the communities' own time, effort and money, there are other resources which the community can draw from. In three of the communities studied, Shell or Mobil have an active presence, and as part of their corporate social responsibility activities they provide many resources to the immediate communities in which they work and have their own sustainable development plan for these communities. This has nevertheless been controversial and there are some studies that have investigated how and why oil companies are implementing their corporate social responsibility in the Niger Delta and the impact of these on the communities (see for example Idemudia, 2007; Frynas, 2005, 2001; Ite, 2004; Boele *et al.*, 2001; Wheeler *et al.*, 2002). My position is that the oil companies are not doing enough because they work with communities through representatives who sometime are corrupt and do not have the best interest of the people at heart. These companies need to engage more directly with the people and this is another area where ICTs have great potential.

FIGURE 7.2: Volunteers Working on a Community Project Site



Source: Author

7.3 KEY FINDINGS OF PARTICIPATORY DISCUSSIONS

Three key findings emerged from the group discussions documented in Table 7.1 - 7.4: First, community radio can be utilised as a focal point for local development; second, the communal use and ownership of ICT facility; and third, an integrated media framework for implementing ICT facility. I now discuss these findings in turn.

7.3.1 The Case for Community Radio

The findings documented in Chapter 6, (see Section 6.5.1) show that radio was the most widely used media in the rural communities. My research revealed some cultural resistance to high end technology in Mbiaya Uruan where the people were not very interested in using computers and many had never attempted to. People were comfortable with what was familiar like radio which did not require them to change their way of life. Authors like Baron (1999) and Robinson (1999) have previously highlighted the same point. Robinson writing on the reasons for the failure of a telecentre project in Mexico cites amongst other reasons, the fact the telecentres presented an alternative information source to the local elders. It represented a shift from traditional knowledge practices towards a new model that effectively bypassed their position as knowledge brokers in the

region. What makes radio most appropriate as the focal point for community development is that more than any other medium, radio is local (Opoku-Mensah, 2000; Myers, 2000; Lewis and Booth, 1989). More than any other mass communication medium, radio speaks in the language of the people and with the accent of its community. Participants in Ogan Amah also noted radio programs reflect local interests and it can make important contributions to both the heritage and the development of the cultures, local economies and communities that surround it. In Mbiaya uruan participants suggested that political and developmental issues can be discussed on the radio and that it can be a tool to hold political office holders accountable. However, they noted that this cannot be done now because the radio station is based in the state capital and is government owned and so people do not trust the information that they receive through this medium as highlighted in Chapter 6.

Community radio can be culturally pertinent for the people because local radio stations can produce their own programs and speak in the hundreds of languages of their communities. The Niger Delta has over 20 million people from more than 40 ethnic groups, speaking some 250 dialects. Programs in local languages can celebrate and reinforce the cultural identity of the people. Below are some excerpts from my research that show the people's appreciation of radio as an appropriate tool.

I use radio more than TV or newspapers to gather information and to know what is going on around the state. (38yrs, Male, Sells telephone accessories)

Community radio will be good for the community because the radio will be passing information in the local dialect so that the uneducated can benefit and also computer center for the youth so that they do not turn out to be touts (49yrs, Male, Lecturer at Niger Delta University)

Yes it will aid quick dissemination of information especially the radio centre. (27yrs, Female, Trader)

As a result of the apparent failure of some sophisticated ICT ‘solutions’ in Africa, a growing body of literature has examined the challenge of implementing ICT solutions in the global South, including discussions on the normative nature of Western ICT initiatives and the significant economic, social and political challenges that hinder ICT implementation and deployment (Kurian and Toyama, 2007; Kenny, 2002; Adam, 2005; Heeks, 2002; Avgerou and Walsham, 2000). These concerns have fuelled renewed interest in radio as a medium that is uniquely positioned as an appropriate and accessible foundation for addressing ICT for Development goals. In spite of the fact that radio does not have the superior status of more sophisticated ICTs such as the internet, it is sparking renewed interest in development thinking (Buckley, 2005) because it offers more appropriate and sustainable development solutions than advanced ICTs which often fail to live up to their promise of societal transformation (Kenny, 2002; Buckley, 2000; Jensen, 1999).

In this research, I make a distinction between community radio and other types of radio such as public service radio and commercial radio. Public service broadcasting is usually a state supported or state owned activity. Its broadcasting is often controlled by a public body. Commercial or private radio provides programs designed primarily for profit from advertising revenue and is owned and controlled by private individual or companies. Community radio on the other hand, is owned and managed by a particular community. Its aim is to serve and benefit that community. It relies on the resources of the community, and community radio broadcasters are from the local area themselves and see their jobs more as facilitators of local self expression (Fraser and Estrada, 2001). The present type of radio broadcast in my study sites is state run radio which is run by civil servants trained to extend government policy to the masses; there were no community radio stations. The state-owned broadcasting system is widespread in the Niger Delta. While in some parts of the world radio is taken for granted, seeing it as little more than an accessory in a car, in others like the Niger Delta it fulfils a variety of much more important roles: it is the only mass medium that most people have access to; and it is the community’s primary point of contact with global news via BBC World and Voice of America.

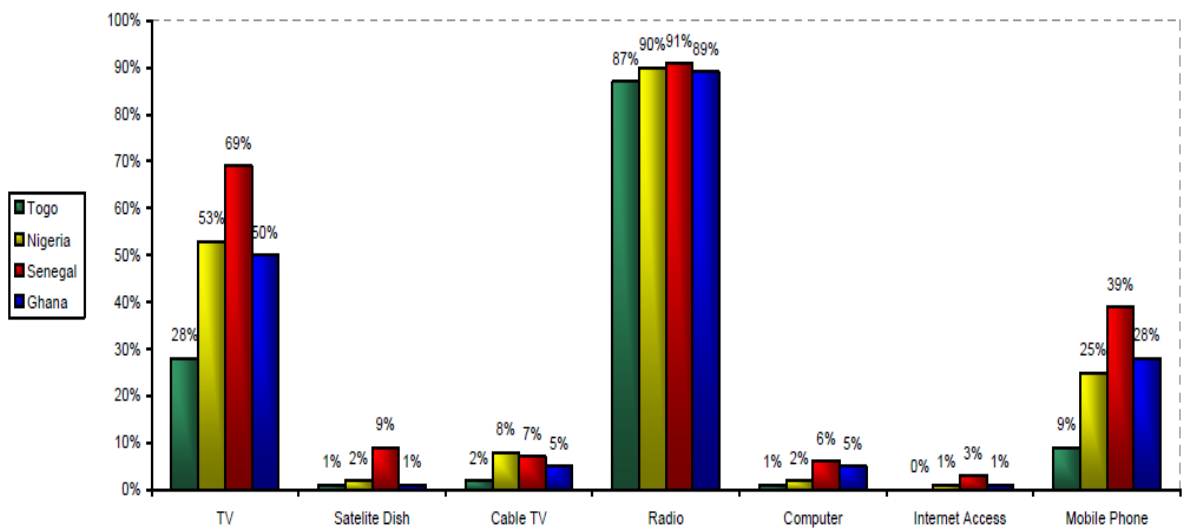
Myers (2000: 90) defines community radio as a “small-scale decentralised broadcasting initiatives which are easily accessed by local people, actively encourage their participation in programming, and which include some element of community ownership

or membership”. Opoku-Mensah (2000) identifies three salient components of community radio: ownership by people, access by people, and commercial/non-state dependence. It is these characteristics that make community radio an attractive communication tool for development, especially in the rural context. It is not only an important mechanism for the diffusion of development information in local languages and over widespread and remote geographical areas; it is also a great tool for reinforcing and strengthening cultural expressions and identities (Girard, 2003). Community radio’s popularity has been advocated by development scholars such as Kenny (2002), Girard (2003), Feek (2004) and Tacchi (2005), and this is informed by the pervasive use of radio in Africa over other ICT media. According to the World Association of Community Radio Broadcasters (AMARC), the number of community radio stations in sub-Saharan Africa has grown from 10 to more than 800 in the last 20 years (Mulama 2005). Ilboudo, a development communications expert with the Food and Agriculture Organization of the United Nations, states that community radio is Africa's internet and reaches the most important audience which are poor and illiterate (FAO, 2001). He also posits that the popularity of community radio is rooted in its similarities to the region’s tradition of oral communication (Ilboudo, 1999).

The four most important characteristics contributing to radio’s success as a medium for development are: (1) its pervasiveness, (2) its local nature, (3) the fact that it is an oral medium, and (4) its ability to involve communities and individuals in an interactive social communication process (Girard, 2003; Myers, 2008; IREX 2007). Feek (2003) argues that the widespread, individual connectivity of the type that is commonplace in the West is not feasible, realistic, or even desirable for the developing world. In order for more sophisticated ICTs to be effective and to gain the broadest possible audiences, they are best combined with older media forms like radio. Feek (2003) further notes that radio is incredibly widespread throughout the developing world and in Africa it represents the only truly universally accessible medium for the majority of the people. While only one person in 160 in Sub-Saharan Africa has access to the internet, one in four is reported to own a radio (Jensen, 2002). Radio networks reach over 60% of the population, and this coverage grows yearly (Jensen, 2002; World Economic Forum 2003, Myers, 2008). All the most recent and reliable surveys agree that radio is still the dominant mass-medium in Africa (see for example Balancing Act 2008; BBC WST, 2006; RIA, 2005), with the widest geographical reach and largest audiences compared with TV, newspapers and other ICTs.

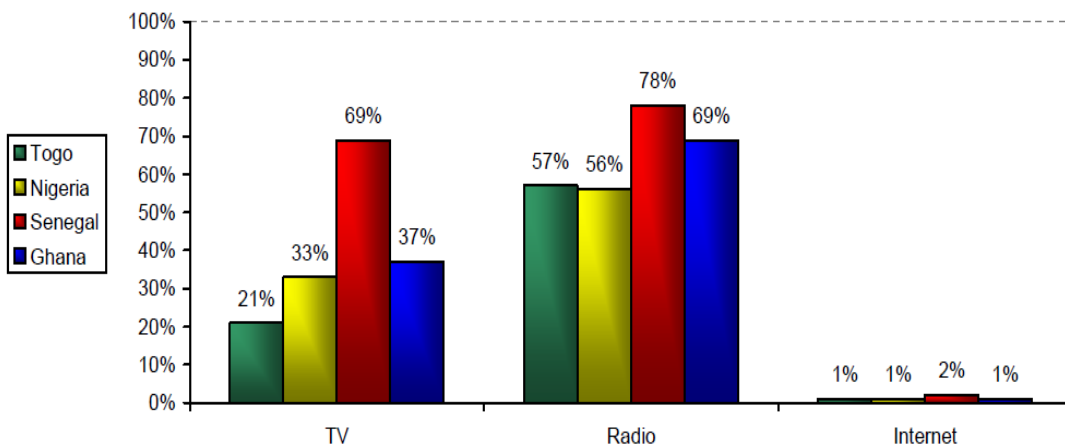
Figures 7.3 and 7.4 thus compare radio receivers with other equipment owned in all parts of the continent, show that radio is in the lead right across the board, registering ownership levels among adults of over 80% in West Africa. These figures are from Balancing Act (2008) which are derived from a series of surveys they carried out in 17 African countries (Algeria, Angola, Burundi, Egypt, Ghana, Kenya, Morocco, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Togo, Tunisia, Uganda and Zimbabwe) between 2005 and 2007.

FIGURE 7.3: ICT Equipment Ownership Chart, West Africa



Source: Balancing Act, 2008

FIGURE 7.4: Daily ICT Media Use, West Africa



Source: Balancing Act, 2008

The charts show that 90% of Nigerians own a radio and 56% use it daily. This offers great potential for radio as an intermediary for the poor, geographically dispersed, and illiterate portions of the population to gain access to the information and knowledge that could be transmitted via radio broadcast.

Despite the renewed popularity that radio is receiving, there are nevertheless important constraints with such a potential initiative. One of the problems of community radio is financial sustainability. The state owned radio stations receive government subsidies, but community radios are expected to survive without the benefit of public money. They do not attract advertising revenue or have the metropolitan buying power. Getting sustained support to keep community radio stations going is a very real issue. From a technical perspective, a radio station is relatively easy and cheap to set up. A small FM station, with a 40 watt transmitter, mast, and basic studio equipment can be bought for about US\$3,000, excluding shipping and customs duties (AFRRI 2008). The signal range covers 25km to 50km. What is more challenging for any radio station is long-term sustainability: producing good quality content, managing, paying and retaining staff, maintaining the premises, studio and broadcast equipment and paying the monthly rent and fuel bills. Myers (2008) echoes this and notes that one of the main problems for radio in Africa is economic sustainability. This is even more so for radio services aspiring to public service and to developmental content. As Dagrón (2005) has pointed out, sustainability is not necessarily 'just about money', it should also be understood in terms of the level of community support and institutional capacity which the radio stations have, the wider political environment it is operating in, and whether this is conducive to their existence and growth. Sound institutional organisation, social inclusiveness and participation are also crucial elements for sustaining radio services. While reliable evidence of radio's positive impact exists (see Buckley *et al.*, 2008; DFID, 2007; Balancing Act, 2008) there are still concerns over radio's developmental impact (Myers, 2008). In particular, these often relate to issues of gender and inclusion. The use of radio, like all ICTs, is not gender neutral. There are significant differences between the way women and men use radio; and this is supported by evidence from my research that women have less access to radio than men. In addition to men's ownership and control of radio sets, women generally have lower levels of education and they have higher and more constant domestic workload which leaves them little time to devote to radio listening. As documented in Chapter 6, some

women work as farmers during the day, take care of their homes, then go to the market to sell farm produce and have little or no time left over to listen to radio.

Radio may also reinforce existing inequalities within communities. In every community there are divides of religion, class, gender, age, kinship and income. Powerful local influences such as dominant political figures and wealthy entrepreneurs may monopolize the airwaves and influence the content development. In Rwanda for example radio was utilised negatively to propagate the genocide message in 1994 (Myers, 2008) where the Hutu-controlled radio station supported, guided and encouraged the work of the militias who systematically killed hundreds of thousands of Tutsis; they even went as far as to broadcast names and addresses of Tutsis, which resulted in their deaths as well as the killing of moderate Hutus (Frère, 2007). Although the Rwandan example is an extreme, there have been other cases where radio has been used for purposes of propaganda, incitement to ethnic violence, and to support the politically powerful. In Kenya for example the local language radio stations started broadcasting ethnic abuse and censure after the election violence of January 2008 (Myers, 2008; Abdi and Deane, 2008). In Nigeria, a radio and television station owned by the same company was shot down because the government did not approve of the message they were broadcasting. The station was alerting the public to the fact that the constitutional amendment that was being debated by the legislature was actually a covert plan by the president to extend the current presidential two term provision in the constitution to three terms which sparked national protest. Although the radio licensing laws in Nigeria are quite liberal, the political climate in Nigeria allows corrupt politicians to cloak their clandestine activities in darkness and may resist or seek to control radios in their states. These issues may affect the developmental potential that radio offers.

Another important limitation with radio is that it is an 'old' ICT and a one way medium. It lacks the interactivity that mobile phones and the internet have. In the current information age radio access alone is simply not enough for the participation of communities in the global information highway. Participants in my research were interested in the idea of information/communication centres in combination with community radio as a gateway to internet. They acknowledged that radio alone was not sufficient to meet the information and communication needs of the community and that it needs to be integrated with newer digital media forms. They were interested in the concept

of community information centres in combination with radio facilities, as illustrated in the comments below:

Yes the computer center will enable student acquire skill necessary to survive in this 21st century. (24yrs, Female, School Teacher)

It will help in development and aid learning (28yrs, Male, Okada rider)

It will bring people to this community, and attract business and it will make us more exposed to the world. (41yrs, Female, Petty trader)

One of the major issue that was highlighted during discussions was a lack of knowledge as to how the provision of ICT facilities might be connected to community development and empowerment. Participants were more interested in how radio and community centres would support livelihood strategies and attract investments to the community. As we explored their sustainability goals and how these may be achieved, we became increasingly focused on the idea of an ICT facility that will utilise the popular media tools like radio and mobile phones and at the same time provide a link or bridge to the internet. This led to discussions about communal use of internet for community benefit, communal ownership to ensure sustainability and we discussed the notion of technology convergence and developed initial ideas of an integrated framework for how this may be implemented which I present in Section 7.3.3

7.3.2 Communal Use of Technology and Media Convergence

The rapid expansion of new ICTs in developing countries provides the potential of interaction of the internet with other electronic media, such as radio and television. James (2004) argues for a “paradigmatic shift” from a model that is based on the idea of telecentres equipped with computers, to an intermediary-based model that provides internet access to local intermediaries who blend technologies (new and old) to distribute information and share knowledge. The notion of technology blending is an attempt to break from a Western concept of the isolated and closed relationship between the individual and the computer, and evolve towards the collective use of ICTs. Participants in

my research noted that they do not all have to use technology to benefit from the technology; there were suggestions that if a selected few were given the skills to use ICTs they could act as intermediaries for the rest of the population in a similar way that village phone operators do in GrameenPhone projects in urban and rural areas of Bangladesh (Richardson *et al.*, 2002).

The benefits that radio can convey as an intermediary go beyond the provision of widespread access. Radio is a one way medium and using it as an interface with the internet, allows for a more interactive medium. Community radio producers can listen to and understand local issues, and they can then seek solutions from the global information systems available through the internet via search engines, and specialist web sites. This can also open up opportunities for interactions and correspondence with other people and organisations such as non-governmental organisations, public officials, experts and specialists who have an interest in the development of their region. This was an issue that was often raised during the group discussions. One participant thus said

“We want to learn from the world but we also want them to learn about us and know what we are going through.” (Amassoma, 26yrs, Male, Speed Boat Driver)

Radio stations and their staff can act as human search engines, locating the information that may be of use to a community; they can act as translators, breaking down the extensive volume of information content of the internet; and they can provide both local and international context to this information. In this way, recipients of the information can develop a better sense of how their daily existence can benefit from the information and also gain a better sense of how they fit into the global system. A handful of community based radio stations have taken the lead in taking advantage of this technological convergence across the world (see Dagon, 2001a; Richardson *et al.*, 2002; Dagon, 2001b; Slater *et al.*, 2002, Arunachalam, 2002). The Kothmale Community Radio, in Sri Lanka, for example, uses the internet to respond to requests for information from its constituencies. The station receives requests via call in programs and mails, searches the internet, stores information with content relevant to the local communities, and broadcasts this information, translated into local languages. The convergence of radio and the internet provides useful examples of how to create local content, relevant to local needs but also to

local culture, and provide this content in local languages. The Village Knowledge Centres in India, Kothmale Community Radio in Sri Lanka; Púlsar in Latin America; ‘Voice of the Miner’ a radio station for Miners in Bolivia; Radio Sutatenza in Columbia (see Dagon, 2001a; Slater *et al.*, 2002; Oeyen, 2005; Fraser and Estrada , 2001) are a handful of experiences from which to learn.

Girard (2003) and Myers (2008) suggest that ‘convergence’ is the sensible option for the future. They note that there is a clear quantitative rationale for blending the internet with radio, because radio is widely owned in much of the developing world (see Figure 7.2 and 7.3) and can greatly extend the reach of the internet. In particular, Girard (2003: 11) argues that “A radio station with thousands of listeners that makes active use of the internet can address the problem of access to the internet’s wealth of information with a tactic of digital multiplication, multiplying the impact of its internet connection”. In Kothmale, for example, radio browsing programs, where presenters literally browse the internet on air, focus on local economic activities, development and governance issues, culture and entertainment. The daily programs respond to queries from listeners through call in programs and mail. Presenter’s first select relevant, reliable websites and broadcast the program with local resource persons, such as doctors for a health program, as studio guests. Together, they then discuss the contents of the mostly English language sites directly in the local languages. They also describe the websites and explain how they are browsing from one web page to another. Thus, listeners not only get the information they requested, but they understand how it is made available on the web. They can respond to the program and they know that essential data will remain available in the community database if they wish to make individual use of it. With such a daily radio program, there is continuity within a common learning process encouraging greater interactivity with and by the community (Dagon, 2001a). The radio program has triggered a greater interest among community members in receiving information related to poverty alleviation efforts, health, formal and non-formal education, livelihood skills and individual empowerment (Hughes, 2003: 2).

Although popular examples such as Kothmale Community Radio have brought this medium well into the realm of the debate on technological blending, the role of mobile phones associated with radios in Africa has not yet been given the attention that it deserves

considering the recent revolution in mobile phone use in Sub-Saharan Africa. According to the ITU (2010) mobile technology is currently the most widely diffused ICT, and their report suggests that by the end of 2008 almost three-quarters (75%) of the world's rural inhabitants were covered by a mobile cellular signal, up from 40 per cent in 2003. The proportion of rural households with a mobile telephone has reached, or now exceeds, 50 per cent in many developing countries (ITU, 2010). There has been a recent explosion in mobile phone ownership in Africa and Nigeria has the largest market in Africa. Nigeria had 85,565,255 connected mobile phone lines at the end of April 2010 (NCC, 2010). This number will continue to increase. People in Nigeria already use their mobile phones to transfer and pay money, check bank statements and receive news. Development agencies disseminate health information on immunization and HIV/AIDS through mobile phones and a variety of other activities. Integrating mobile phone use with the internet and radio would be a practical and appropriate solution for people who do not have regular access to computers. For example, correspondents of Radio Lira in Uganda gather information from the local area on the prices of commodities, such as sorghum, plantain, and maize, from all the area's local markets which they phone or text into the radio station. This information is then broadcast on the radio and made available to farmers with mobile phones as a text-messaging service for a small fee. Weather reports, health advice, and warnings of imminent pest attacks are all communicated in this way and are very popular (Kleih *et al.*, 2004).

As noted in Chapter 6, mobile phone use in the Niger Delta is not dependent on ownership (see Section 6.5.2). The number of people with access to mobile phones is twice as high as the number who actually own phones. Many people do not own a phone but use one daily, by borrowing from family and friends and in call centres. Radio and mobile phones are the two most prevalent modes of communicating in the Niger Delta, and integrating these two technologies with newer ICTs such as the internet, would help to increase the likelihood that the benefits of new technologies are widely spread in the region and open up a window to the world, in contrast to the current situation, where the replacement of traditional technologies by 'telecentres', has clearly benefited only a tiny minority of the rural population (James, 2005). In the ensuing section, I present an integrated media framework which emerged through a collaborative process with the

participants in my research, and it incorporates mobile phones as an interactive tool for feedback with the radio station (see Figure 7.5).

7.3.3 Integrated Media Framework for Niger Delta Communities

The initial concept for the framework presented in Figure 7.5 was conceived during the group discussions and further enhanced to incorporate the core ideas that emerged at the end of the co-generative learning exercise. It comprises inputs from both the participants and my own knowledge of the literatures. The framework is designed to utilise ICTs appropriately in ways which can become more visibly and sufficiently embedded in the communities so that they are recognised as a necessary component for community survival and development. The framework retains the technologies that people are familiar with and are already using widely, and blends this with shared access to the internet. Given that incomes are low in my study sites compared to urban areas, and many rural households simply cannot afford ICTs, shared access is a cost-effective means of providing rural connectivity.

The goal here is not to address an abstract digital divide, but rather to meet the real social sustainability goals that have been identified by the people involved in my research which is documented in Chapter 5 (see Section 5.6) and Section 7.2.1 above. Some of the sustainability goals which participants wanted ICT facility to support includes the following:

- Enhance local capacity for advocacy
- Strengthen forms of social organisation
- Strengthen mechanisms to allow sharing of experience and knowledge
- Giving the people a voice
- Enhance interconnectedness – supporting systems and structures that connect within and outside the community
- Access to information on development and government activities

Some preconditions for a potentially successful ICT facility were discussed during the workshops and this included that it should:

- Have low running cost
- Reach a large population of the community and possibly neighbouring communities
- Promote social inclusion, so that even poor and illiterate people can benefit
- Have local content which the people would find useful and relevant
- Be culturally pertinent and celebrate the heritage of the people
- The people should have ownership both in the design and management
- The technology should be appropriate so that people can maximise its benefit

Based on these highlights, I brought my own knowledge of the literature into discussions to contribute practical ideas of how other communities in other regions of the world have utilised technology for community development. This ignited ideas about a framework that would be useful for their communities. This framework pulls together the key ideas that participants and I discussed during the workshops and the total picture emerged at the end of the exercise.

The framework presented in Figure 7.5 features radio as the focal point and hub for other activities. The idea is to locate a radio and communication centre in the community with land donated by the community, coordinated by community leaders. This communication centre would house a radio station with radio equipment that has at least a 30 km reach. At this centre there would be internet access with 2 - 5 computers depending on resources which would be connected to the internet. The connection would be by dial up connection using a TDMA phone or a USB modem which is widely used in Nigeria. This is the cheapest connection and does not require dishes and cables or other installations that would need regular attention and maintenance. The computers would be open to public use at a charge when available but their primary goal is to provide access to global information for the radio station. It was also suggested by my participants that this could be used for skills training for those who would be volunteering or working at the centre. The internet could support the community in a variety of ways according to my respondents: provide information on health issues; search engines could be used to provide information for listener requests; an online community or forum could be run where issues important to the communities are discussed; connections to hometown associations in the

diaspora who are interested in the development of their communities and bringing injustices and community challenges to global attention.

FIGURE 7.5: An Integrated Media Framework for Niger Delta Communities



Source: Author and Research Participants

Content development for the radio station would be done by the people in the communities with external support where available. Suggested programs included call in programs that covered community events, political discussions, health, entertainments and lifestyle. Some participants suggested that it could also provide a medium for discovering, developing and showcasing local talents in music, the arts and broadcasting.

One of the key benefits highlighted was that the people would be more involved in the political decisions affecting them. It would hold political office holders accountable, as commented upon below:

“we can even invite our local government chairman or our councillor for interview and we will ask him what he is doing with our money, people can phone and ask him questions and tell him what the people want in this community” Mbiaya Uruan, Female, 40s, entrepreneur)

“yes let them tell us what they are doing”.(Mbiaya Uruan, Male, 30s, Teacher)

They also suggested that those aspiring for political office would be able to interact with the people directly through this medium and give their manifesto publicly. When they fail to keep promises, there will be a record and they can hold them accountable by reminding them of their election promises. This would also apply to community representatives who negotiate community development on behalf of the community with oil companies. Suggestions included the idea that the oil companies could announce the development activities they are implementing, the investments made on air and receive feedback from the people and this way the people can be more involved in their activities and the decisions that affect them and this transparency would reduce the corruption of community representatives.

Blending mobile phone use with the radio provides an interactive medium for people to be more involved with the radio station. Presenters would provide phone numbers over the air and invite listeners to phone-in or send SMS messages with comments on the news, questions, opinions, announcements, greetings and song requests. Some of these would then be broadcast on air. Again, this depends very much on the biases and qualities of the presenters and they can become powerful gatekeepers to knowledge who may not be fair, transparent and honest. Gatekeeping refers broadly to the process of controlling information as it moves through a gate or filter (Barzilai-Nahon, 2008) and is associated with exercising different types of power, such as selecting news, mediating between professional and ethnic groups, and brokering expert information. Gatekeepers are defined as information intermediaries who move between cultures, linking their community members with alternatives and solutions (Muller and Millen, 2001). They have high information potential; a greater awareness of and use more information resources that do

other community members, irrespective of status. They are responsible for bringing identifying useful information and bringing it into a particular organization (Muller and Millen, 2001). Gatekeepers have a profound influence on the availability and flow of information within a community (Agada, 1999; Metoyer-Duran, 1993).

Community announcements, which are done by the town crier and megaphones, could instead be announced over the radio and reach a wider audience. Community leaders can talk to the people through this medium and some community meetings could be held this way. The centre would aid in the preservation and revitalisation of local customs and traditions through the documentation of events such coronations, cultural events and programs that celebrate their heritage.

Although this integrated model promises great things, implementation and sustainability are very important issues that need to be considered. Participants were initially very sceptical of the practicalities of implementing and paying for such a project as the following excerpts show:

“This is very nice project but who will pay the staff, who will manage it” (Anua, Male, 60s, Chief)

“Are you going to give us money to buy equipment and maintain this centre.” (Mbiaya Uruan, Male, 60s, Community Leader)

The first step in the process was to identify actions and resources (both internal and external) required for the implementation and sustainability of the project. Some ideas highlighted by the participants were:

- Training and skills development
- Participation of end users and stakeholders in planning, development and implementation
- Start up cost and running costs.
- Community volunteers and staffing
- Content development and planning

Some suggestions included involving the oil companies and local government and donations from wealthy ‘son and daughters’ in the diaspora. But this also raised the issue

of the station being high-jacked and controlled by their benefactors, and thereby thwarting one of the key purposes for the centre which is giving the people a voice. There were also suggestions of running it as a business enterprise owned by the community where people pay to announce their events like marriages, burial, child dedications, political adverts and government public announcements. There were further suggestions that people who wanted skills training on broadcasting and computer use could also pay and small tokens could be paid for internet time by community members. The proceeds can then be used to run the station. This business case model was the most widely accepted idea for the financial sustainability of the radio station. In the first instance start up costs might be covered by the oil companies and the development associations who have financial resources that they have collected over the years to support microcredit schemes and other community development activities. The leaders were willing to donate community land for the project.

7.4 PRECONDITIONS FOR THE SUCCESSFUL IMPLEMENTATION OF ICT SOLUTIONS FOR NIGER DELTA COMMUNITIES

In this section I discuss the conditions required for the successful implementation of ICT initiatives in the Niger Delta. These preconditions emerged from the discussions with my research participants and from the findings in the ethnographic phase of field work.

7.4.1 Community Ownership

Building on the discussions and the previous findings, it was evident that community leaders or clan heads have donated land and taken responsibility for building and maintaining community facilities (see Section 7.2.4 and Figure 7.2). Participants cited instances where community land has been donated for development purposes such a local primary school class and clinic. If they saw value in modern ICTs, they would therefore be likely to support them in similar ways. Looking at this from the perspective of sustainability from a point of view that is not restricted to income generation, community involvement and the development of a sense of ownership over the project, will also be the best guarantee to keep the equipment safe and in good running condition. As noted earlier, communities can contribute their time and resources to the process.

Participants suggested that a local committee composed of representatives from the various community organisations could be formed to oversee the activities of such a project. This local committee could also assume responsibility for conducting certain content-related tasks, as often happens with community radio stations, where a nurse is in charge of a health program, the teacher prepares a series on education issues, rural cooperative leaders arrange to find useful information for farmers, youth leaders deal with music and topics that interest their peers (Dagron, 2003).

There is ample evidence of ICT projects that have folded after one or two years (Heeks, 2002b). In addition to the fact that some projects were never designed to be sustainable, another reason why this is more likely to happen is that communities do not have the sense of ownership of a project and do not feel that the installations are essential to their social and economic development. By community ownership I do not refer just to ownership of the technology. It goes further than that and refers to the whole communication process including both planning and implementation (Dagron, 2003; Batchelor, 2002; Unwin, 2009). Michiels and Crowder (2001) thus argue that the local appropriation of ICTs is about communities and groups selecting and adopting communication tools according to the different information and communication needs that they themselves have identified, and then adapting the technologies so that they become rooted in their own social, economic and cultural processes. It is about freedom of expression and power over the tools and content of communication. To sum up their argument, it is about the people taking ownership of the whole process. Implementing ICT initiatives with the main aim of providing access means that the conditions are often dictated by external agendas. But when the people dictate how and what information they need and the best medium to gain it, they take ownership of the process. The peoples of the Niger Delta already have local information systems in place and information gathering mechanisms which meet some of their local needs. New ICTs may have the potential to do more, but this can only happen when local institutions and existing systems develop ways of improving information exchange using ICTs in a participative way.

7.4.2 Appropriate Technology

The exercise conducted during the workshops to identify the ICT media most suitable to enable community processes revealed that certain technologies such as personal computers was not viewed as a useful tool for community development effort. That is not to say that computers need to be thrown out, because the people did acknowledge that computer use is important especially for the younger generation but rather that they could be incorporated in a way that people could benefit from access to the global information highways. Appropriateness does not just refer to the technology, but also to how the technology is applied for local development.

Building on my discussions with participants, a second precondition for ICTs to enable sustainable development and social change in the Niger Delta was identified as the use of appropriate tools: technology that is adequate to the needs of communities, not in terms of technical standards alone, but in terms of utilization, learning and adoption. The terminology of appropriate technology (Amable, 1993; Avgerou and Land, 1993; Ciborra *et al.*, 1995) was born after decades of failures in huge development installations that became white elephants - empty structures that were never put to work for the benefit of communities.

In the Niger Delta, indigenous communities have a high number of illiterate people who are not familiar with new technologies such as the internet. They still live in an oral society where information is exchanged face to face, and people receive relevant information from community leaders. In such circumstances, the introduction of alien processes of communication without consideration for what the people are familiar with could render such initiatives ineffective. In an early evaluation of a community telecentre, Baron (1999: 42) noted that users “found difficulties in moving from the logic of perceiving the world based on oral tradition and experience and the physical proximity of objects, places and persons, to a logic in which the world is converted into text, files and windows that are closer to the idea of a virtual reality”. The transition to new forms of communication would depend on the appropriateness of technology for local conditions.

This ties in with Silverstone *et al.*'s (1992) notion of the domestication of technology. The domestication of media and technology is a concept within the field of

sociology of technology which describes and analyses processes for communication technologies acceptance, rejection and use (Berker *et al.*, 2006). It presents a theoretical framework and research approach that considers how the complexities and dynamics of everyday life such as rituals, rules, routines and patterns affect the place of technology in work, home or the society (Berker *et al.*, 2006). Silverstone *et al.*'s (1992) notion of domestication shows how the roles and meanings that people give ICTs are shaped by the way that they organise their lives. A key stage in the domestication process is the *appropriation* of technology by the user where they give the media a physical, symbolic and social place and incorporate these into their everyday life (Selwyn, 2003). They further describe how people go through an ongoing series of conflicts, negotiations and compromises over the location, ownership and control of technologies—as the technology is ‘placed’ or ‘positioned’ into the already existing set of rules, routines and ways of doing things. Therefore each individual negotiates the proper place of technology in their lives and situations according to a range of personal and institutional factors (Selwyn, 2003).

7.4.3 Local Content Creation

Radio and televisions were a major source of information on local government; state and national news (see Chapter 6, Sections 6.4.2 and 6.5.1). The ocean of ‘knowledge’ which the people could receive from using the internet may not correspond to the needs of the people. Different communities have different needs, and within each community, the diversity of cultures and problems calls for specific approaches. For example, Anua is situated on the edge of the city and is relatively developed, a large percentage of the population can read and write and the influence of traditional authority is not as strong as in Mbiaya Uruan which is a much poorer community with very limited development. Also in these two communities there is no youth restiveness and agitation against environmental degradation as in Ogan Omah where oil pipes are literally running across the front of their homes. ICT activities with a strong focus on advocacy and transparency would be welcomed in Ogan Amah which may not have the same reception in Mbiaya where people would prefer ICT initiatives that provide access to information on jobs, skills development and poverty alleviation. Moreover, it is also important to recognise that communities are themselves diverse. For example, Amassoma has combination of very rich and very poor, very educated and stark illiteracy, areas that appear very developed and areas that are completely rural. This may be because of the establishment of the Niger Delta University in 2000 in the community and the influx of foreigners that have come in as result of this

development as well as other developments such as oil company activities in the communities. For a community like Amasomma, if ICT is not appropriately deployed certain groups are likely to be further excluded.

To cater to their users - again following the example of community radio - several community-based ICT projects produce local content, appropriate to the specific population of peasants, fishermen or other groups that are seldom taken into consideration by commercial cybercafés. Relevant examples include the Village Knowledge Centres in Chennai, India, the Grameen Village Phone, and Kothmale radio in Sri Lanka (see Dagon, 2001a; Richardson *et al.* 2002; Dagon, 2001b; Slater *et al.* 2002, Arunachalam, 2002). When aiming at the socially excluded, content should be the key, not just access. Cross (2005) notes that the success of digital television and mobile phones shows that people will go digital when there is something in it for them. DiMaggio and Hargittai (2001) similarly propose that meaningful ICT usage will only occur if it fulfils a real purpose for the recipients; if there is no reason to use the technology it will be quickly discarded as irrelevant.

The development of local content should be the single most important non-negotiable condition for the use of ICTs for social change and development in Niger Delta communities because the relevance and sustainability of ICT projects depend strongly on whether they can offer value and potential benefits to communities. Hearn *et al.* (2004) and Chapman and Slaymaker (2003) argue that locally relevant information can stimulate the demand for information services that is essential for ICTs to be used to their full potential.

7.4.4 Promoting Social Inclusion

A significant divide was observed between the rural and urban dwellers in the Niger Delta. The city dwellers had access to cybercafés, people had dial up internet access in their homes, middle class families have cable television beaming news and information from all over the world, and families that could afford it have a generating set to supply power for their needs. This was not the case for rural dwellers who were the focus in this research. Certain groups such as farmers and fishermen were completely cut off from global information, as illustrated by the excerpts below:

“Me, I be fisherman, I fish from Ibaka river, sometimes we go to Oron the day before so that in the midnight and early morning depending on how water dey, we can start fishing, from there I take my fish to beach market for Oron to sell then in the afternoon I return to village, I no get time for all the meeting wey dey call for here.” (Mbiaya Uruan, Male, 40s, Fisherman)

Translation- I am a fisherman, I fish in Ibaka river in Oron. We leave the village in the evening and in the midnight or early hours depending on the tide, we go fishing and then in the morning I take my fish to the beach market to sell and then I come back home by noon, I don't have time to attend community meetings.

“I leave the house before day break to go to farm, because if you don't leave by that time it will not be long before sun comes out and you will not be able to dig. By 6am I am in the farm, I come back in the afternoon and cook for my husband and children then when the sun goes sometimes I go back to farm or go to market and come back for evening and cook, which time do I have to watch TV or radio. If I don't do like that, I cannot meet up” (Mbiaya Uruan, Female, Farmer and trader)

These fishermen and farmers leave their communities very early and come back late, and so they are already excluded from many daytime community activities and events. Some are not literate and cannot read and write. The introduction of ICTs may further isolate such groups. Likewise, Hafkin (2000) and Radloff, *et al.* (2004) argue that it is likely that women will be further excluded from the benefits of technological advances, which may exacerbate the existing gender inequalities that is pervasive in the global South.

As became apparent through my discussions, that for communities to be sustainable the connections to development activities and social engagement of all groups need to be preconditions for any ICT initiative. The socio-cultural and economic factors that may affect the utilization of technology need to be investigated. For ICTs to be effective, they need to be integrated into communities in ways that lessens instead of widen the

communication gaps between the people with the skills and access to use ICTs and the excluded groups in isolated communities.

The introduction of ICTs does not necessarily address the divides that exist within societies, such as the differences in the level of access between men and women (Keller 1977, Martin 1991, Richardson *et al.*, 2002), rich and poor (World Bank 1998; Gomez and Hunt 1999, Richardson 2000, O'Farrell 2001), urban and rural areas (Campbell 2001), and people with different levels of education (O'Farrell 2001, Madhusudan 2002). With respect to location, information divides not only exist between countries but also within them with respect to urban and rural areas (Campbell 2001). These are further exacerbated by the slower adoption of ICTs in rural communities (Gomez and Hunt 1999). According to Niles and Hanson (2003), a person's social and spatial situation provides the context through which they gain the needed skills to learn to use a technology and interpret the information. Thus, it is expected that ICTs will be more accessible in urban areas and locations closer to the centre of development.

Although the introduction of ICTs may further exacerbate social exclusion; it can also offer opportunities for social inclusion, especially for less mobile groups and for social interaction, exchanging information, for education and training. What determines these outcomes are choices around how and where access to ICT is provided, why and for whom, and designed by whom. These will govern the extent to which, and the speed with which, ICTs can enable inclusion and social participation.

7.4.5 Human Development and Skills Acquisition

One key point that was constantly iterated during the course of the research by participants was that one cannot talk of development in the Niger Delta without the development of human capacities. Human development and skills acquisition were ranked the second most important goal by the participants in my research. They felt strongly that for any ICT initiative to support their communities, building the capacity of the people is a non-negotiable precondition. They equated the longevity of any development project with the capacity of the people who will support the initiative. One participant thus said:

“You are talking about sustaining something, how will you sustain a project without the people, is it possible? You cannot bring development without developing the people, who will

manage the development?"(Amasomma, Male, 29, Unemployed).

Wade (2002) agrees with this notion, and notes that ICTs will continue to be unsustainable as long as capacity development efforts are ignored. As ICTs continue to change, new ones will arise and thus new skills will be required. Sen (1997: 21) states that "the expansion of human capabilities...have both direct and indirect importance in the achievement of development. The indirect role works through the contribution of capability expansion in enhancing productivity, raising economic growth...The direct importance...lies in its intrinsic value and its constitutive role in human freedom, well-being and quality of life". Mann (2003) likewise suggests that access to ICTs should be seen as adding to people's capability to participate in the potential benefits that the information society brings. In particular, it is also a prerequisite for people to participate in 'digital democracies' (Catinat and Vedel 2001), and is needed to protect people's choice to communicate and access information and knowledge (Hamelink, 2003). In measuring indicators for sustainable information societies, the United Nations Commission for Science and Technology for Development (UNCSTD) for instance, includes, experience, skills and knowledge as critical components in the development of information societies aside from infrastructure (Mansell and Wehn, 1998). These capabilities are needed to function effectively in today's information society. Mansell (2002) echoes the same argument and states that for citizens to make sense of the information they receive, they need skills. She further notes that a characteristic of most of the new media is that they create a need for citizens to acquire new capabilities for assessing the value, veracity and reliability of information if they are to participate effectively within the fabric of a global society. Without such skills and capability, social problems of alienation, poverty and ignorance are likely to worsen with the spread of new media since the majority of citizens will not have acquired the capabilities needed to make choices or to express opinions about what they value.

Much of the basis for achieving more sustainable bottom-up community development lies in building community capacity (Cavaye, 1999; Labonte, 1999), rather than just individual capacity. However, community capacity development rarely receives the attention and investment it deserves (Blackwell and Colmenar, 1999). Capacity

development empowers and motivates local people to contribute to their maximum potential for the development of their community through openness and preparedness for change (Gannon, 1998). This was not evident in the Niger Delta because there was a general lack of awareness about the benefits of working together for the sustainable development of their communities; the focus was on daily survival. Mannion (1996) thus argues that local participation and development can be fostered through strengthening the knowledge, skills and attitudes of community members so that they can create and adapt local institutions toward sustaining their communities' development, and providing opportunities for meaningful involvement in the development process. More specifically, community capacity consists of building the networks, organisations, attitudes, leadership and skills that allow communities to manage change and sustain community-led development (Cavaye, 1999). Thus, community capacity development requires a two-pronged approach: developing the capacity of individuals and strengthening community social infrastructure to support the development effort.

7.4.6 Enhancing Community Networks and Social Cohesion

Ethnicity is one of the key parameters that define communities and bonds community members in the Niger Delta. ICT initiatives that build on this by enhancing networks, strengthening community ties between indigenes who are locally based and connections to those in the diaspora will greatly impact local community development, however this is defined. It can also ensure that people are more willing to accept and use technologies as they would strengthen the value system and norms of their societies.

Community networking and social cohesion are key components of a sustainable community (Bridger and Lullof, 1999). Timms (2002: 6) thus argues that ICTs, in particular the internet, "provide a foundation for strengthening local community". Clement, *et al.*, (2003: 2) likewise postulate that community networking "represents one of the most interesting experiments in the use of ICTs to strengthen local, geographically-based communities". They promote economic and social participation by enhancing the informational resources available to people living together in compact territories (Gurstein, 2000; Keeble and Loader, 2001). Community networking aids economic development by strengthening local networks of exchange and mutual support (Moll and Shade, 2001). Jeannotte (2004: 23) further states that "policies affecting participation and inclusion lie at

the heart of social cohesion concerns...and that the willingness and capacity to cooperate is essential for sustainable communities”. The unique potential of ICT initiatives is the richness of interactive, informal communication, both horizontal and vertical, which the technology enables, and the greater diversity and breadth of networks and ties that can emerge from increased participation and interactivity in the community. Similarly, the World Bank (1998) highlighted the growing body of evidence that the size and density of social networks and institutions and the nature of interpersonal interactions are significant determinants of the sustainability of development initiatives.

On the other hand, sustainable communities are also described as those where local community action is significantly shaped by interaction with global trends and agencies, but is balanced by action at the local community level not only to protect and enhance their immediate environment but also to promote more humane local societies (Bridger and Luloff, 1999). Sustainable communities are thus underpinned by outcomes of interactions within local communities, between community members and groups, and with external connections. Such a view stresses the interactions and linkages that lead to collective actions and relationships essential for the development of more sustainable communities.

7.4.7 Sustainability of ICTs

During discussions, participants were asked to reflect on the attributes of an ICT project that would make it sustainable in their local conditions. In addition to local content and community involvement, the people also suggested that such a project needs to be self-sustaining and should not overburden the resources of the people; otherwise it is unlikely to continue to function. They suggested that such an initiative is likely to be sustainable through the key involvement of local government authorities and the oil companies operating in their region. As noted earlier in three of the communities studied, Shell or Exxon Mobil already have sustainable development programs in place as part of their corporate social responsibility (CSR) encompassing education and employment projects, environmental projects and local community projects (Manby, 2000; Idemudia, 2007). I discuss in some more detail here their role in the sustainability of projects in the region. Mobil and Shell thus have a scholarship scheme for citizens; Shell funds the SKOOLNigeria project, an interactive web-based solution for the teaching and learning of mathematics and science subjects in Nigerian primary and secondary schools. The Shell

youth development scheme is enabling the youths to gain useful skills with which they can gainfully be self-employed (Idowu and Filho, 2009). They also implement a variety of health care initiatives for the people. These programs alongside others are actively operational in the states studied. However the impacts of these projects have not really contributed much to community development. The reason for this may be due to some of the factors mentioned earlier: not involving the community in the development and implementation of these projects, and the observation that most of these projects are short term. Frynas (2005:581), however, suggests that the motives of oil companies in implementing community development projects may be the reason for what he refers to as “the false developmental promise of corporate social responsibility”. He identifies at least four important factors driving private sector interests in community development projects in the Niger Delta: obtaining competitive advantage; maintaining a stable working environment; managing external perceptions; and keeping employees happy. For example in the Niger Delta, community protests and agitations have halted oil operations, so development projects are sometimes initiated as a way of buying the local communities’ agreement to allow companies to continue their commercial operations. For instance, Shell provides its major contract managers with a development budget, so that when a new pipeline is built, the manager can initiate a new development project within a community in order to enable pipeline construction to continue unhindered (Manby, 2000). When Shell finishes the construction of a particular section of the pipeline, the community development budget for the area is simply closed (Frynas, 2005). Thus projects are driven by short-term expediency rather than the long term development needs of a community. In one case cited by Frynas (2005), Shell built three town halls in one Niger Delta community because three community chiefs wanted to benefit personally from contracts for their construction. Social projects in the Niger Delta are sometimes initiated in order to buy a short spell of peace and this has implications for their sustainability. Projects that are used for public relations purposes, irrespective of their success are unlikely to foster the long-term development that is required for sustainable communities.

Frynas (2005) argues that the key reasons why companies such as Shell in Nigeria fail in their developmental efforts is the primacy of the ‘business case’, the incompatibility of corporate objectives with developmental objectives, and the failure to integrate CSR initiatives into a larger development plan. Participants in my research echoed this notion

and suggested that initiatives that included an ICT element should not function in isolation but should be incorporated into the other development activities taking place in their communities to ensure sustainability. One participant said:

“Mobil and NDDC say they want to train us on how to use computer, but if we tell them this plan we are developing, they can support us, if we involve them and the local government people then we can tell them the kind of training we want. So that in the end it will benefit us and the project will last.”

(Mkpoku Eyokan, Male, 27, unemployed)

For ICTs to be sustainable in the Delta, participants identified the following main criteria that need to be in place:

- they need to be owned by the community and should utilise community resources,
- have a plan for long term sustainability built in,
- build the capacity of the people to support the project,
- have relevant content that is beneficial to the people,
- it should be integrated into other development activities taking place in their community and should be self-sustaining.

The preconditions discussed in this section were concepts that emerged during the group discussions and provided the basis for developing the framework that is a product of the collaborative sense making between the participants and me.

7.5 CONCLUSION

In this chapter I have documented the analysis and presented the findings of my action research conducted in the Niger Delta. Based on the preconditions above and the outcomes of the discussions, an integrated media framework was presented that could be implemented to support the social sustainability of communities adapted to local conditions. The framework was not designed to solve the digital divide problem, but rather to contribute to the social sustainability of communities. This framework represents a starting point for exploring further ways in which ICTs may be deployed to support the sustainable development of communities in Nigeria, specifically the socio-cultural dimension.

REFLECTIONS – Co-generative Learning Exercise

Three key findings emerged from this phase of the fieldwork. First, community radio can be utilised as a focal point for local development; second, an integrated media framework for implementing ICT facility in the Niger delta and third, preconditions for the implementation of ICT facility in the Niger Delta. These findings achieved the aim of the participative discussions in that it produced new actionable knowledge for utilising ICT to support the sustainable development of communities in the Niger Delta.

These findings raised several issues I reflected on after the exercise. Among which are: Are they indeed actionable? What information and action resources are needed to implement this kind of facility? Community members require money, the technology, skills, motivation, confidence, trust and knowledge in order to sustain such an effort. Sustainability is a central concern in a wide variety of 'ICT for development' projects as well as for the framework outlined in the preceding chapter. Also is developing culturally appropriate interfaces for technology appropriation in rural communities a sustainable solution for the future when increasingly the younger generation are more interested in the internet especially social media and consider radio as outdated. Within the four years it has taken to complete and write up this research a lot has already changed in the individual exploitation of ICTs in Nigeria. This is also reflected in the findings presented in Chapter 5 where the youths have a different conception of sustainability than the older generation yet the youths are the future and they will have to live with and sustain whatever developments are initiated now. How does this framework developed in conjunction with my research participants represent a development that will continue to yield positive outcomes for communities in the next five years in an age where technological innovations are changing rapidly even in developing regions. This further highlights the conflicts around the notion of preserving traditional practices juxtapositioned with the desire to participate in global innovations in technology which was highlighted in Chapter 5.

As stated after Chapter 6 various literature and theoretical concepts were reviewed to try to understand and interpret some the findings in the field. The findings presented in chapter 7 also needed to be situated in the wider context of the literature. At the end of this exercise I also revisited the literature and found that this research has a natural home in the field of community informatics (Gurstein, 2000, 2007). This is a growing field, an emerging one which is gaining traction in the field of ICT for development. It is a discipline underpinning the social appropriation of ICT. Community Informatics (CI) applies ICTs to enable community processes and the achievement of community objectives. The findings support the position of CI which assumes that communities have characteristics, requirements, and opportunities that require different strategies for ICT intervention and development from individual access and use. It also goes beyond the 'Digital Divide' interventions in that it explores ways to make ICT more useful and effective for excluded populations and communities for local economic development, social justice, and political empowerment. It approaches ICTs from a 'community' perspective which is important if ICTs is to support the sustainable development of communities.

Chapter 8: ICT for Sustainable Niger Delta Communities: Research Contributions and Concluding Remarks

8.1 INTRODUCTION

This thesis is one story among many about how people may harness information and communication technologies for development. As with all such stories, it is but a small slice of history, of geography, of culture and of communication. This chapter summarizes the main findings of my research and expands on their theoretical significance. I also document how this research contributes to existing knowledge in the field of ICT4D and adds some innovation in methodological terms.

The chapter has four main sections. The first provides general conclusions on the key findings of my research. In the second section, I reflect on how this research contributes to knowledge empirically, theoretically and methodologically. In the third section I discuss the implications of my research findings for policy makers in Nigeria and development practitioners who implement development projects more widely in Africa. Finally I discuss some possible new directions for future research.

8.2 KEY FINDINGS OF RESEARCH

The key findings of my research have been categorised into four themes that directly answer my research questions: conceptualisations of community and sustainability; indigenous communication systems; socio-cultural influences in the appropriation of ICTs; and communal use of ICTs and technology blending.

8.2.1 Local Constructions of ‘Community’ and ‘Sustainability’

Each community has a system of a multitude of networks, interests and identities which help determine how people see the place where they live (Hoggett, 1997). The notion of ‘community’ in the Niger Delta needs to be understood in its heterogeneity and complexity so as to be able to encompass and express both variety and unity. The nature of communities in the Niger Delta is not easy to understand, and its significance and influence in the social structure is very different from conventional western ideas of

community. My research identified five factors that particularly shape community in the Niger Delta: ethnicity and culture; societal norms and values; leadership; community based organisations; and social events and interactions. These factors appear to be particularly significant in terms of their potential impact on development outcomes in the communities where I worked. One of the major findings under this category is that communities are conceptualised by most people in the Niger Delta as a place of origin rather than as a place of residence as conceptualised in many Western communities (Willmott, 1986; Wilkinson, 1991). This has important implications for community development projects, because people who are only residents and not indigenes are considered strangers or visitors in most of the communities studied and they are usually left out of community development activities. Indigenous ties and affiliations need to be considered when delivering ICT initiatives and can be potentially useful in enhancing connections between indigenes in the diaspora and indigenous at home for development purposes.

Similarly local constructions of sustainability are somewhat different from Western conceptions. Any sustainability effort in the Niger Delta should include the maintenance and continuity of traditional institutions and customs and a respect for indigenous practice. Three important points were evident from local conceptions of sustainability. First, it was acknowledged that sustainability is about continuity, consistency and long term planning, yet Niger Delta people and Local Government Authorities do not put in place plans and policies for sustainability in relation to their own development. Second, sustainability goals have to be defined by the people in order to achieve sustainability outcomes. Third, reorientation and awareness raising is required for people to be more engaged in planning for a sustainable future.

8.2.2 Indigenous Communication Systems and ICTs

Local information exchange in the Niger Delta is based fundamentally on interpersonal communication and the oral traditions that have sustained the information systems of communities for generations. Information seeking patterns suggests that searching for information from human and communal sources are the most popular means of receiving information. ICT media that support these practices have been well received. For example, mobile phones and radios are very popular because they amplify existing cultural patterns. Mobile phones because they enhance face to face communications and keep people

connected to one another both within and outside their communities. In addition to the fact that it is functional and cost effective, radio is also similar to the old town crier system where people received regular announcements on community events. Another reason why these two media are particularly popular may be because of their voice based transmission, where people who are used to oral communication feel more comfortable using technologies that are based on orality.

The indigenous information systems presented in this thesis show that ICTs, especially computers and the internet, are not currently being used widely to support community processes in the Niger Delta and are not currently integral to a community's survival. The internet opens new opportunities for communication and interaction which may change the extent to which people use older communication media. There is a need for mediation between the traditional and emerging information systems when considering the socio-cultural and economic leap that will be required for societies, accustomed to receiving information orally from a known and trusted source, to new digital, text based information from virtual, and virtually anonymous, sources.

8.2.3 Local Appropriation of ICTs: Social Structures and Cultural Influences.

My research findings indicate that social structures and cultural traditions mediate the transformation processes in communities. ICTs are not external to societies; they are interpreted, appropriated and used within these social frameworks, and their use is deeply linked to the society and culture in which they are embedded. Consequently there can be no single interpretation of the outcome of their use—they will not have the same effect in all places and at all times. ICTs are adapted by a changing rural society and culture influenced by such processes as traditional institutions, community based organisations and peer associations which are locally articulated. The adoption of mobile phones and cable TV, for example, has helped to create small-scale businesses such as call centres and viewing centres in the region. Together with televisions, radios and phones offer culturally approved social alternatives for the Niger Delta.

These findings are in line with research which indicates that communication, knowledge sharing and learning are profoundly influenced by cultural values of individual stakeholders (Hofstede, 2001; Hutchings and Michailove, 2004; Pfeffer and Sutton, 2000; Siakas and Georgiadou, 2006) and that culture creates the context for social interaction and

shapes the processes by which new knowledge is created, legitimised and distributed (De Long and Fahey, 2000). Bringing new technology to underdeveloped and poor countries is not only a matter of having the resources and money to buy equipment, but also a matter of the culture and the environment. There is a need not only to provide access, but this also needs to be done in ways appropriate for the local culture.

8.2.4 Inclusivity, Communal Use of Technology and Technology Blending

Another finding of my research is that not everyone has to own, operate or access ICTs to benefit from the new technologies. Citizens in the Niger Delta are used to communal living and sharing community spaces and resources, and this also applies to the use of ICT media such as mobile phones and the internet. People share phones and they ask or pay others to perform automated and online activities on their behalf. People rely on others and use ICTs by proxy. This allows users to share difficulties and costs, and this sometimes passes responsibility, problems and costs onto other people. This provides new opportunities for the concept of technology blending. Technology blending is about combining recent ICTs, especially the internet, with more prevalent traditional modes of communication, such as radio. This concept embraces, rather than displaces, older forms of ICTs, and as such avoids the loss of skills, knowledge and traditional values, that can occur when older technologies are entirely replaced.

According to Dagron (2003), for each success story of ICTs for development, there are fifty failures. The introduction of new technologies that blend and interact with the traditional technologies of radio and television has better prospects for local improvements, adaptations, and innovation than self-contained, turn-key projects which have a limited scope for local learning and for the development of indigenous capacity. The introduction of new technologies is more likely to be tolerated and accepted through integration rather than disintegration. Finally, considering the lack of infrastructure, poverty and resource constraints of the Niger Delta, technology blending offers an avenue for spreading the benefits of the new emerging technologies in a more participatory way than the introduction of capital-intensive, large-scale facilities. The research findings suggest that the combining of internet, mobile phones and community radio offers new possibilities for supporting sustainable communities through technology.

8.3 RESEARCH CONTRIBUTIONS TO KNOWLEDGE

8.3.1 Empirical Contributions

The conceptual framework in Chapter 2 highlighted the gap in empirical evidence to support claims that socio-cultural factors play a considerable part in the appropriation of ICTs. There has been rather limited research that has actually explored empirically the cultural influences in technology adoption, and there has been a growing voice calling for more empirical research in this area (Avgerou, 2001; Warschauer, 2003; van Dijk, 2006), especially research that adopts a holistic approach to investigating people's interaction with technologies. The current understandings of the ways in which ICTs are used, appropriated and affect society are derived largely from the experience of technological development and the philosophical interpretation of this experience in Western societies. In many instances it is the West's experience of technology that has shaped and informed the general cultural interpretation of how technology can and should be deployed and used.

My research contributes much needed empirical evidence from the grassroots level to facilitate a better understanding of the complex processes and socio-cultural factors that affect ICT adoption in developing areas such as Africa. The primary contributions of this thesis is an empirical demonstration and analysis of a cultural variation in the way communities and sustainability are conceptualised in certain parts of Africa and an empirically informed theory about how ICTs may be successfully deployed to support the development of marginalised communities in Africa. My thesis also provides an empirical exploration of the linkages between social structure and agency in the appropriation of ICT tools.

8.3.2 Theoretical Contributions

The field of ICT for development has gone through several theoretical phases, from the initial debates of the 1990s and the beginning of the Millennium about the digital divide which focused on just providing access to developing areas to bridge this abstract divide (Jensen, 2002; Mason and Hacker, 2003; Norris, 2001). This led to the roll out of turn-key projects focused on providing access, to debates around whether ICTS are good or bad for developing countries (Thompson, 2004; Wade, 2002). Now the discourse has moved on to a recognition that access is simply not enough and that if we are looking at ICTs to support sustainable social development, access to computers and internet is far from being

the answer (Dagron, 2003; Wilson, 2004). More recently the larger trend in the field has been on addressing how their potential can be harnessed to address locally relevant problems (Heeks, 2008; Unwin, 2009). The failure of many ICT4D projects to deliver sustainably has led to a variety of research exploring ways, processes and frameworks for the successful implementation of ICTs for developing countries. New emphasis is placed on other theoretical approaches that may impact on the successful deployment of ICT4D. It is in this area that my research contributes.

Many terminologies have been used to define some of these theoretical ideas, including the following: *appropriation of technology*; *domestication of technology*; *community informatics and social construction of technology*. These concepts have been very useful in studying social uses of technology, but I have tried to stay away from applying one particular concept in my study because I wanted the data to tell their own story and not to try to fit the findings into a particular framework or model. Appropriation and domestication are themes of growing importance in research in technology studies, drawing on social, cultural and consumption studies that examine the active processes through which people adopt and use technologies. While the domestication concept makes it possible to grasp how society shapes technology and how technologies can have effects on the organization of society, it has, however, been developed to understand the acquiring of technology by Western households and the approach has its roots in Western categories which focus on how users position technology in their homes while at the same time making it useful and meaningful. This cannot be applied in rural and developing communities in the Niger Delta where ‘home’ and the family space have very different connotations. In order to avoid privileging Western categories in analysing ICT, I examined how the appropriation of technology draws from culture and, conversely, contributes to changes in culture and society by presenting indigenous categories of social organization, where symbolic fields such as ethnic affiliations, kinship and traditional information systems represent dominant practices which are honoured by community members and used to interpret community life. My research suggests that the success of ICT initiatives is crucially conditioned by local, cultural and social systems. This is in line with Simon (2003: 33) who argues that ICTs have “evolved in a particular Northern, technologically sophisticated environment. However, in the very different contexts of various Southern countries, the impact of ICTs may be far more problematic and

restrictive”. He further makes the point that technology and technological innovation is not neutral, that in most circumstances, the attributes of particular technologies may be ideal in providing different opportunities and to fit divergent circumstances of heterogeneous populations. It is therefore best done, not with a wholesale application of ‘best practices’ from projects that were successful in Western contexts, but instead by understanding and learning about the local context in which it is implemented.

My approach in studying the appropriation of ICTs in the Niger Delta is similar to that of Horst and Miller (2005, 2006) in that I frame the research using anthropological and sociological concepts of culture, agency and social structure, instead of the vocabulary of the domestication paradigm. Although my thesis can be located within, and indeed contributes to, existing theoretical approaches to the study of technology appropriation and the domestication of technology, its theoretical contributions extend to other theoretical fields such as studies of agency and technology (for example, Hård and Jamison, 2005; MacKenzie and Wajcman, 1985; Nye, 1995) which illustrate that technologies emerge through choice and negotiations between social groups. My thesis contributes to the field of Community Informatics (CI) (Gurstein, 2007) which approaches ICTs from a ‘community’ perspective and develops strategies and techniques for managing their use by communities. CI assumes that communities have characteristics, requirements, and opportunities that require different strategies for ICT intervention and development from individual access and use. This thesis also contributes to the understanding of the role of cultural meanings in technology studies. I explore anthropological understandings of agency and practice and acknowledge the role of culture in the adoption of technology.

8.3.3 Methodological Contributions

My research methodology was based on in-depth qualitative research inspired by work done by Tacchi *et al.* (2003) which combines ethnography and action research. Their approach focuses on using ethnography to guide the research process and action research to link the findings back into the ongoing development of a project that focuses on the innovative use of ICTs to empower people living in poverty in South Asia.

It was important to me as I began the research process to design a methodology that would be adaptable to dealing with multiple realities and would be sensitive to the many

mutually shaping influences and value patterns that may be encountered. I wanted a methodology that would help me to understand the socio-cultural context for the appropriation of ICTs and to explore how the emerging social organization relates to local meanings. Existing theories, methods, and perceptions can keep us from seeing phenomena as clearly as we might (Gough and Elbourne, 2002). My focus was thus on finding ways to let the data tell its own story in discursive context rather than remaining obedient to a given epistemological perspective. Gough and Elbourne (2002) suggest that we should recognise that knowledge is both representational and performative. They further make the case that although doctoral students are required to make a substantive original contribution to knowledge, there is an argument to be made for developing both a strong theoretical base as well as independence and creativity that allow us to move beyond the conventional in qualitative research.

I sought to design a novel approach that was a hybrid of ethnography and action research in a cyclical phased field enquiry that allowed me to connect my findings in the field with the literature by engaging with new theoretical concepts that emerged at each stage. The methodology involved active participation of the research participants in defining, interpreting and drawing conclusions from the research findings. It also employed action-based methods such as activities and experiences of participants as they generate knowledge. It produced rich research data that deepen our understandings of both the experience of indigenous people in the research locations, and the potential of ICTs to support communities and ensured that as far as possible the research adapted itself to locally defined needs, thereby helping to ensure the relevance of the findings. Since little previous theory on the interaction between the ICTs and the social fabric in indigenous communities exists, the inductive, context and process of the method proved to be particularly useful.

Action research provides in-depth understanding of how research participants interpret experiences and create social behaviour, and this then ensures that the developed ICT solutions integrate well into the existing context. However, action research methodology, generally does not offer many detailed tools and techniques to achieve such an understanding. Complementing action research with ethnographic research, provides

such tools and techniques as participant observation and interviews that complement the action research and provide a richer understanding of:

- The research participants and how they are organized;
- The wider social context of their lives (for example, ethnic divisions, community economy, social and cultural resources, and community institutions); and,
- The social structures and processes outside communities that nevertheless impact upon it (telecommunication infrastructure, government policies and programs, and developments projects).

In this way, my thesis contributes to existing theories of ethnography and action research because it presents a grounded theory approach on the applicability ethnographic action research methods in designing of ICTs solutions for communities within Africa.

8.4 FUTURE RESEARCH DIRECTIONS

My thesis represents just a starting point in the exploration of the potential of ICTs to support the sustainable development of communities in Africa. I do not know of any research which has previously had this specific focus; it is therefore an area that requires more in-depth and comparative research. There are three areas, though, for further research that I consider to be critically important in exploring how ICTs may contribute to the development of sustainable communities: local content development, sustainable ICTs and technology blending.

Without accessible, locally relevant content, ICT projects for the vast majority of the rural poor are bound to fail. There is some evidence from my research that radio programs, especially appeal to people in the Niger Delta because of the high level of local content and may be more effective than computers in reaching people about topics such as family planning services and health information. There have been increasing calls for local content development but only very limited research on how this may organised and developed in Africa. There is very little multimedia content being developed by and for African people, let alone in African languages (Unwin, 2005). Building on the findings of my research, there is considerable opportunity to explore ways in which indigenous, poor and marginalised people can contribute to content development in African languagesm

focusing especially on audio content development because of the wide range of languages in Africa.

A second area for future research is technology blending. The convergence between new ICTs and older media forms is an exciting and promising area for further research. Research that explores implementation models for a system that would enable an entire community to utilise the convergence of television, radio, mobile phone and the internet, to offer new prospects in the delivery of information to predominantly oral cultures is an area which has to date received very little attention. I would like to build on the integrated model presented in Chapter 7 and explore the operationalization of such a model.

A third area for future research is on the actual sustainability of ICTs. ICTs can contribute to the sustainability of communities only if the ICT projects themselves are sustainable. Sustainable ICT use is about ICT facilities that are long-lasting and ICTs that meet the needs of the user in a dynamic non-static way as communities are always changing. Many ICT initiatives in developing regions have failed due to factors such as limited funding and resources, lack of access to training and technical support, and reliance on external resources successfully to maintain initiatives. The long-term sustainability of these initiatives is therefore a significant issue for rural communities. Building on this, further research is needed to find new ways of making rural ICT projects more sustainable. Developing models for the technical and financial sustainability of ICT projects in resource limited regions is an area of research that is much needed.

8.5 CONCLUSION

I came from an information technology background having worked in that field for over seven years. I was very excited about ICT for development and the great potential it holds, especially for developing countries. At the end of this process I now have more questions than answers, and I find myself constantly asking the same questions that practitioners and academics in the field of ICT and development have asked. Is ICT the panacea for development in developing countries? What can ICTs really contribute in the face of poverty, hunger, inequalities, sickness and conflicts? The answers to these questions are complex and outside the scope of this research. From my own research, though, I can say that ICTs are tools, mere instruments; it is the way they are used that determines whether

they are beneficial or disadvantageous. Content and utilization is what makes the difference.

In summary, a recurrent and underlying theme in this thesis is the notion of building bridges: building bridges between old and new technologies; between scientific and indigenous knowledge; between the local and global; and most importantly between the theoretical rhetoric and the realities on ground in developing countries. This thesis has tried to go there in its own little way, but the journey is just beginning.....

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Appendix A

Focus Group Discussion Format

Introduction: Setting the context

Outline of introductory questions (10 minutes)

I am a research student studying in the UK. My research is on **sustainable development** in the Niger Delta. I selected the Niger delta because I am a Niger delta citizen from Akwa Ibom state. I have worked in this region for 3 years, mostly in IT and youth development. I am very interested in the development of this region and in trying to find out how we can meet the **social needs** of our **communities** and how ICT may help.

As a researcher I have done a lot of theoretical reading on sustainable community development and I found that the practical realities of regions like ours are not explored. To address this I would like to ensure that local people like you help define my research agenda and I would like to provide a basis for and to justify my theoretical readings within a practical context.

I am going to raise some issues that directly affect our communities and I would very much like you to share your honest opinions with me regarding **your views** on **sustainability** and tell me something about **your experiences**, your visions and the sort of long term development **you would like** to have, and see in your communities.

It's really important that I understand what it is that **you** want. So, with the questions that I will be asking, please tell me what **you** really think. Don't just say things because you think I might want to hear them! There are no 'right' or 'wrong' answers. The main thing is that we all have a discussion about the questions I ask.

I hope you do not mind if we record the discussion. This is so that I don't have to frequently interrupt our discussion and take down a lot of notes, and that we can have a record of what **you** say so that we can go back and learn from it afterwards. Be assured that nobody will be named for what they have said here. Don't worry – I will not let anyone else know who said what!

Do you have any questions for me to start with? If there are no questions and everyone is ok with the conditions for our discussion I will proceed with the main questions for discussion.

Purpose

Establishing the context as **sustainable development** and **communities** and my positionality as a fellow citizen.

Establishes that they going to play an important role in the research process and emphasizes that I have a personal interest in this work

Emphasising that I have a personal interest in this work, and summarising the core aims of the discussion

Outlining the core purpose of focus groups.

Introducing the recording of the session, and confidentiality; invite them to hear what the recording is like and play with the equipment

Checking they understand what we will be doing

The Questions

Time	Main questions	Reasons and prompts
10-20	When you hear or see the word “sustainability” what comes to mind? How do you define it? What feelings or questions or beliefs does it elicit from you?	<p>Aims to identify local definitions of Sustainability.</p> <p>Prompts:</p> <ul style="list-style-type: none">• To sustain is to keep in existence; maintain.• How do you relate sustainability to development?• Sustainability is very broad but I would like us to focus on sustainability as it pertains to the life, friendly companionship, welfare, and relations of human beings in the community.
20-25	<p>The most widely used definition of Sustainable Development is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’</p> <p>What is your general reaction to this definition?</p>	<p>Aims to compare the accepted western definition of sustainability with local interpretations.</p> <p>Prompt:</p> <ul style="list-style-type: none">• How useful is this definition in the context of your communities?• Please explain the aspects of this definition you do not agree with.
25-30	What do you value about the social aspects of your community and why? The term social here, refers to aspects pertaining to the life, friendly companionship, welfare, and relations of human beings in the community	<p>To identify the kinds of community relations that exists in the community.</p> <p>Prompts:</p> <ul style="list-style-type: none">• What kinds of interactions take place?

30-35	<p>You have identified certain aspects of your community and I would like to know if you consider them important enough to be preserved overtime. Would you like to see these aspects preserved and why?</p>	<ul style="list-style-type: none"> • What kinds of events do community members participate in? • How do people communicate with each other
35-45	<p>When you compare the activities in your community about 20 or 30 years ago with what is obtainable now, what changes do you see? What kind of social changes are taking place in your community?</p>	<p>Aims to assess their commitment to sustainability</p> <p>Prompts:</p> <ul style="list-style-type: none"> • What is it about these aspects that you would like to see your grandchildren partake? • Why are they important?
45-50	<p>Are these developments and changes the kind that you would like to see passed on to future generations and to your predecessors? Can they be sustained for the next hundred years or more, how?</p>	<p>Aims to establish the levels of developmental changes in their communities</p> <p>Prompts:</p> <ul style="list-style-type: none"> • Changes in Personal relations and interactions • Standard of living, well being • Community spirit and unity • Access to information • Community Organization and culture • Community values • Livelihoods • Do you like these changes? • Will they benefit your community in a 100 years time? <p>Aims to direct them to thinking about their visions for sustainability and the possibilities</p>

50-60

Think about the changes we have identified, are there developments affecting your community adversely or that you think may deprive or affect the positive development of your community in 50 or more year's time?

available to them.

Prompt:

- What do you think are the threats to their preservation?
- Why is it important that future generations partake of this development?

Aims to identify unsustainable patterns in the community

Prompt:

Are they eroding community culture or community values of any kind?
Do they affect community spirit and connections?

60-70

Describe the ideal community you would like to see your grand children and great grand children inherit and live in based on the categories below. You can add any other categories you think are important for your community. Can you rank these categories in order of importance?

Aims to identify their vision of a sustainable community

Prompt:

- Think of your great grand children living in your community in a hundred years time.
- What aspects community life would you like to see them partake in?
- Hand out cards so they can rank them in order of importance starting from the most important aspect

70-80

- Personal relations and interactions
- Standard of living, well being
- Community spirit and unity
- Access to information
- Community Organization and culture
- Community values
- Source of income
- Education
- Means of communication

Identify specific actions or programs within communities that would lead to a more sustainable future for the region. Be specific in addressing this question.

Aims to identify a sustainable future for

80-85

85-90

Thank you very much. Is there anything else you would like to tell me about your communities and its development? Are there aspects you feel we should have discussed which relates to the agenda which we did not cover?

Thanks again. Would you like to have some kind of summary of the things we have discussed? How do you think I could best do this for you?

Niger Delta communities.

Prompt:

- What can be done?
- How can it be done?
- Who will implement it?
- What can WE do?
- What role do you think ICTs can play?
- Clarify what ICTs are
- ICTs are electronic means of communication like radio, TV, Phones, computers, internet etc.

Concluding thanks;
opportunity for additional ideas

Opportunity for feedback

Appendix B

Interview Guide for 1st phase of Fieldwork

Interviewee Profile

Age

Sex

Occupation

Marital Status

Initial Questions

1. Tell me about your community. Describe the people, traditions and beliefs.

2. What does the word community mean to you?

3. How would you define community?

4. Which community do you belong to? And Why?

5. What makes you a part of your community, what gives you a sense of belonging to that community?

6. How is your community distinct and different from other communities around you?

7. Is the stated community the only one you identify with or is there another and why?

8. What do you think binds you together with other members of your community and how do you interact with them?

9. What kind of leadership structure do you have in this community?

10. How have you preserved your traditions all these years?

11. Is the development of your community important to you and why?

12. Are you involved in or do you contribute to the development of your community?

13. If yes, in what way are you involved?

14. Can you describe some key features of your community like your culture, values beliefs, religion, kinship, social relations & interactions, leadership structure, community spirit, livelihood etc

Further Questions and Themes arising from Interviews

- What is a community as defined by respondents? What are the parameters define the communities?

- Is it a place where one lives or is it a place where one has connections because it is their home town?
- Community of origin vs. Community of residence? What role does identity and belonging play?
- How is the community formed, maintained and understood?
- What are the implications for individual identity and for social action?
- Does everyone in the community understand their connections and obligations to it in the same way?
- If not, what are the definitions within communities?
- How do people shape their actions in terms of their own status and situation?
- Who defines development, what do they mean by this term?
- How do community members set to achieve development and what are the problems they encounter?
- How do they balance and integrate the social, economic and environmental components of their community.
- Are the communities active and inclusive; Do they have a strong local culture and other shared community activities.

Appendix C

Initial Interview Questions for Ethnographic Study

Date

Location

Time

Interviewee Profile

Age

Sex

Occupation

Marital Status

Communication:

- a. How do you communicate with relatives and friends living nearby or far away?
- a) If you need to send an urgent message to someone, how do you do this?
- b) Do you have a telephone? When did you last use it? If no, where do you go to make phone calls?
- c) How do you find out what is happening locally/nationally/internationally?
- d) Where do you get the information about social and political events and religion?
- e) How do you get the information about health?
- f) Do you have friends, relatives or other people you want to talk to regularly but who live outside the community?
- g) How do you usually communicate with them?
- h) How would you like to communicate with them?
- i) What kind of information do you find most difficult to get?

Social Events

- b) What kinds of social events take place in this community?
- c) What forms of social events is most highly valued?
- d) What are the impacts of these events on social relations and the community?
- e) What can kind of structure and format does this events take?
- f) Who are involved in this events and who attends?

Community Organisations:

- a) Is there a community organisation in this community? What is the name of the organisation?
- b) Are you and your family members' part of it?
- c) What is the role of the community organisation?
- d) How important is it to be a part of community organisation?
- e) What do you have to do in order to become a member of the community organisation?
- f) How do they contribute to the development of this community?

Community Leadership

- a) What kind of leadership structure do you have in this community?
- b) What role do the leaders of this community play in your individual lives?
- c) How is the local leadership in this community rated? Are they as important as or more important than the local government structures in this community?
- d) How do they influence your decision making and what kind of information do they pass to community members?

Livelihoods

- a) How do members of this community make a living? What is the major source of livelihood?
- b) How much of their livelihoods depend on the kind of information they receive?
- c) What kind of information and interactions do you think members of this community need to improve their livelihoods?
- d) Is this kind of information readily available?

Appendix D

Thematic Questions for 2nd round of Interviews

Ethnographic Study

Category 1 - Community Information Systems

This category seeks to understand how communities gather and receive information, what types of information is exchanged? What is the motivation for getting information? What do they do with this information and what difference this information make. What is the structure of communication and information in a people's way of life and 'Who' shares knowledge and 'how' do they do that.

Questions

1. What is the source and medium of transmitting information in this community?
2. What kind of information is important to you and why?
3. Where do you go to seek this information?
4. Who are your major information sources?
5. How do you get information about what is happening in the neighbouring communities, in the state, and in Nigeria as a whole?
6. Who are the key carriers of information in this community? and why?
7. Who decides what information to pass around? And why?
8. Are there certain groups of people that don't get information easily and why?
9. Who decides what information to pass around? And why?
10. How is the community informed and mobilised for development action?
11. What channels do you use to pass information to community members about community development?

Category 2 - Community Connections/Social Networks

This theme seeks to find out who is connected to whom? What is the social and geographical range of people's connections? At what point and for what reasons are people excluded and prevented from making connections with others?, How do people use their connections?, How do they develop, receive and transmit their values, aspirations, traditions and shared memories, What ways of life these processes produce.

Questions

1. Who are you connected to in this community. That is who do interact with on a daily and regular basis.
2. What kinds of information do you share with these people?
3. Do you have any kind of interactions with other people outside of your community, and what kinds of information do you share?
4. What groups of people have the most interactions and connections in this community and what do they use them for?
5. How does gender, ethnicity and age affect the way people interact and communicate with each other?

Category 1 – Connecting Individual Action and Social Structures

Through discussions this category seeks to understand why people do things the way they do? What are their motivations and goals? How are they constrained by the cultural definitions of ethnicity, gender, age, class? What kind of social structures exist in the communities? How does the social structure determine and affect what different

demographics of agents actually do? How do these structures affect or define the community information system.

Questions

1. There are spoken and unspoken rules about the way older men, older women, young ladies and young men should behave in a community. With regards to interacting and communicating with one another, how are you expected to conduct yourselves?
2. How do people learn about these societal expectations?
3. Are there certain types of information you are not expected to share with others, if so what types of information and what is the reasons?
4. In your own observation of your community, do societal expectations affect the actions people take? Can you explain and give some examples.
5. Who sets this societal expectations and what happens if it is not adhered to?
6. In your own observation of your community, how do societal expectations affect the actions people take? Can you explain and give some examples.
7. What role does culture and traditional customs play in the way you live your life?

Category 4 - ICT use and Perception

This delves delve deeper to get a better understanding of which ICT media is used and perceived? What resources are needed to make it happen? How are these, socially mobilized? How can ICT be used to facilitate and/or enhance social ties and a sense of identity in the community.

Questions

1. Which of these do you use? GSM, Internet, radio & TV
2. Which do you use most and why do you use it more, and what do you use it for?
3. When did mobile phones enter this community and how was it received, do many people use it.
4. How is radio use and mobile phones affecting community members in their private lives and business?
5. Think back to life before mobile phones came, how was it compared to now.
6. If there is no radio, television and mobile phones, describe how this would affect your life?
7. Do people assess the internet in this community? Do you have an internet cafe?.
8. Do you think phones, radio and TV can be used for the benefit of your community?
9. Do any of these enhance your sense of belonging with your community? How and why?
10. From your own observation, how do you see different people using ICT and what do they use it for?
11. How has using this ICT media helped you as an individual.
12. Does any of this ICTs used enhance or foster better relationship amongst people.
13. Does it transmit information beneficial to your community?

Appendix E

Guide for Participant Observation

- Through discussions and interviews create a community profile including a brief history and geography of the community. Including, population, literacy level, source of livelihoods and the kind of community activities that take place there.
- Observe the culture and interactions within the target community.
- Observe and document activities that tell the story of the community's daily life.
- Document my own impressions about the community.
- What are my initial observations about the people and their culture?
- In what areas is their culture different from others?
- Observe and document the process and outcomes of community interactions and social networks.
- Observe connections. Investigate connections.
- Explore the social and geographical range of people's connections?
- At what point and for what reasons are people excluded and prevented from making connections with others?
- How do people use their connections?
- How is information circulated?
- What aspects of these processes fit in the system of classification on emerging themes?
- What resources are needed to make it happen?
- How are these, socially mobilized?
- How and why communities gather and receive information?
- What types of information is exchanged?
- What is the motivation for getting information?
- What do they do with this information and what difference does this information make?
- What are the motivations and goals seeking and exchanging information?
- How are they constrained by the cultural definitions of ethnicity, gender, age, class?

Appendix F

Interview Questions on ICT Usage Patterns

1. Do you get access to any ICT media (a) Yes (b) No (*Explain ICT media first*)
2. Which ICT media do you use ? (a) Tv (b) radio (c) mobile phones (d) Non-internet computing (e) internet
3. What do you use the <<specified ict media>> for?
(a) News .Specify _____
(b) Social Interactions
(c) Transacting business
(d) Others _____

4. How frequently do you use <<specified media>>?
- (a) Everyday
 - (b) Once a week
 - (c) Once a month
 - (d) Less than once a month, specify_____
 - (e) Not at all
5. Do you use ICT for your development needs(i.e for community or self)? (i)yes (ii)No
(break down development needs, explain it in detail)

6. What do you think needs to be put in place so that you can have access to these ICT media?_____
7. How does the use of these of this ICT media you mentioned affect/help you as an individual?_____
8. Does your community place any importance on the use of these media?
 (a) Yes (b) No
 If yes how? Specify_____
9. What does it cost you to access any of these ICT media?_____
10. If you were given a choice and the opportunity, which ICT media would you like to use more frequently? And why_____
11. Is there any way the community has made it possible to have access to any ICT media?
 (i) Yes (ii) NO
 If yes, how? _____

Appendix G

Discussion Guide for Action Research

Date

Time

Location

Group Type

No. of Participants

Introductory Statements

My name is Uduak Okon, I have already met and interviewed most of you. I would like to start by introducing my research again. My research is about ICTs like your GSM, radios, computers and how we can utilise these for community benefit and to support the long term development of your community. My research has been divided into 3 parts. The first part was for me to understand how you see communities in this region and what understanding you have about the concept of sustainable development. The second part was for me to study how you communicate and interact with each other and the ways and media with which you use to do this and why. It was also for me to observe and to learn from you how you are currently using communication technologies and what particular technologies have been most useful to you and why.

The third part of my research is what we are about to embark on now and the purpose is to discuss some of the implications of my findings and explore together ways in which ICTs can be successfully implemented to support the development of your communities. You will notice that in this group your elders are not present, but I will also meet with them and try to learn from them as well.

I would like you to feel free and express yourselves and know every one's input is important and valued. I have with me here, my research assistant Damola, whom most of you are familiar with. He has a recorder with him and we will be recording the session because it would be impossible to take notes and also contribute and coordinate our discussions. As we start discussions, if you have a comment, simply raise your hand and Damola would move closer to you so that all voices will be heard. This recording is strictly for the purpose of my research. If you are still opposed to having your comments recorded please let us know. I would also like to reassure you of confidentiality, the attendance sheet you filled out as walked in, was so that we can have a profile of all participants, your names are not required.

I have developed a discussion guide to start us off, which includes some of my findings and some questions and themes for discussion. This is just a preliminary agenda and we will add on more items for discussions and refine it as we go along. I am aware that the infrastructure and support you should have from the government is not there, so I urge you not to focus on what the government has not done for your communities, but instead on what you can do for your communities with the resources currently available.

Discussion Guide

Some goals were identified for the sustainable development of your community during the first phase of my research. Among them are: equity and participation; community cooperation and unity; preservation of indigenous customs; skills building, human

development and transparency in governance. It is these goals we want explore how ICTs can support.

- In what ways can communication technology support the achievements of these goals?
- Can technologies really support community development?
- What role can your community leaders and local associations play in bringing ICTs closer to the people?
- How important is communication and access to information for individuals and the community at large?

The most popularly used technologies in your community are radio and mobile phones. Very few people have used the internet directly or indirectly. My findings also highlight some reasons why people in your community are not using ICT media such as the internet and computers generally. Some of these reasons include lack of skills and education, no interest, poverty and no access.

- Why do you think there is such low use of computers?
- What makes radio and phones so popular?
- What facilities and activities need to be put in place to encourage people to use computers?
- Do you even think it is important to use these technologies?

Some communities in other countries have adopted telecentre or info-centre approach (explain the approach in detail) to support communities.

- Do you think that kind of model would work here?
- If not, what other approaches would be most suitable for you?
- How could such approaches be sustained based on your own resources?
- What model will work here in view of all your challenges and limitations?

Appendix H

POLICY RECOMMENDATIONS

Although this thesis focuses on communities, there are however other actors, such as the state, multinational companies, and development agencies that play central roles in shaping the ICT situation in the region. In this section I present implications of my research findings for policy.

Policy Implications for the Nigerian Government

The Niger Delta is the richest part of Nigeria in terms of natural resources (Badmus, 2010). Yet despite the tremendous natural and human resource base, the region's potential for sustainable development remains unfulfilled (Omotola, 2006). Some reasons cited by my research participants for the lack of sustained development in the region are the wider external political, policy and socio-economic environments within which these communities operate, and particularly the extraction of oil. Federal, state and local government policies and services are very poor and inefficiently delivered. The sustainability of ICT initiatives depends crucially on the existence of an enabling institutional environment. Local, state and national governments need to be responsive to the needs of communities, and should be committed to the idea of transparent, accountable, and democratic governance. One vehicle through which transparent and accountable governance can be achieved is the utilisation of ICTs at the community level to keep people informed and engaged with government at all scales from the local to the national.

Community development efforts by the people should be integrated with those of government authorities to improve the economic, social and cultural conditions of communities and integrate these communities into the life of the nation to enable them to contribute fully to national progress. It is therefore important for the government to:

- Develop policies that connect with and build upon the fact that people are generally informed by existing forms of communication such as phones and radio and to utilise these tools accordingly;
- Develop policies that integrate ICT initiatives holistically with other development projects in the country;
- Build and bring ICT infrastructure within the reach of all, in particular to rural communities;
- Strengthen national systems of research and technological innovation for ICTs; and
- Build partnerships between government, civil society, business and international organisations to implement effective and sustainable ICT policies and programs that contribute to social equity.

Policy Implications for Development Agencies and NGOs

Some key priorities that emerged for the successful implementation of ICT for sustainable communities in the Niger Delta were: active involvement and ownership by the people; adopting a bottom-up approach; building on locally defined needs; and planning for sustainability and capacity development to sustain projects. To this end some policy recommendations for development practitioners are as follows:

- Develop a bottom-up policy that assists community members to participate actively and collectively in solving their common problems, underpinned by key principles such as self-help, empowerment, networking and equity. Policies should be more

socially inclusive and help ensure the social stability and cohesion in communities which is key aspect of social sustainability;

- Develop formal programs and informal activities that increase awareness of the potential and benefits of ICTs;
- Develop training programs that equip community members with the skills and knowledge required to effectively use ICTs and build local technical expertise for supporting and maintaining information and communication technologies;
- Create opportunities for existing community leaders and emergent leaders to facilitate other community members' engagement with ICTs;
- Strengthen social infrastructure that enables the interaction and building of interrelationships as community members engage with one another and with diverse local organisations and institutions, networks, community resources and services, and community groups;
- Work within the norms and beliefs of the local social system, to ensure that community members drive and own ICT initiatives; and
- Identify ways of tapping into, and building on, existing social infrastructure to facilitate the participation of all community members in local networks by ensuring programs are accessible to a diversity of community members.