MOBILE PHONES AND WORKING-CLASS WOMEN
THE CASE OF FISH VENDORS

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DECLARATION

I hereby declare that this thesis is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in the thesis.

This thesis has also not been submitted for any degree in any university previously.

Kintu Annie Joseph

21 September 2012

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Graduate school has been an experience I shall have fond memories of. I look forward to moving on in life, taking with me what I have learned. And I would like to believe that these lines will ring true –

I am part of all that I have met;

Yet all experience is an arch wherethrough

Gleams that untraveled world, whose margin fades

For ever and for ever when I move.

Lord Alfred Tennyson

Thank you.

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Summary

Mobile phones for development, while not a new concept, is being more rigorously employed in the ICT for development perspective. There is the rhetoric that mobile phones have the potential to contribute economically and socially in lives of the poor and the marginalized, thus who were previously not able derive the benefits of ICTs in the developing countries. Mobile phones have been increasingly adopted by fish vending women belonging to the marginalized fishing community in Thiruvananthapuram, India. With this background, this thesis sets to understand the reasons for its adoption, use and their perceived impacts. It also tries to understand if adoption of mobile phones has resulted in women's empowerment. Through qualitative ethnographic interviews of 40 mobile phone using fish vending women, the thesis findings suggest that the women's adoption was mainly due to the perception that owning mobile phones will result in social and economic benefits. To the question of empowerment, the findings seem to suggest that while mobile phones have the potential to contribute to economic and social empowerment of women; this potential of the technology is not being actively utilized.

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1. Introduction

Mobile phones have been heralded as a catalyst to socio-economic changes in many of the developing nations and in this light, the current age has been aptly called 'a mobile and wireless one' (Srivastava 2008). Similar to the television in the 1950s and the Internet in the 1990s, mobile telephony has emerged as one of the defining communication technologies of our time (Castells 2007) redefining the way we communicate. It has a central role both among the urban and rural population alike. It has consequences for the societies that we live in, supports the development of social cohesion and is a means to control our interactions (Ling and Donner 2009). It has become an essential part of everyday life, and thus has permeated all levels of society.

According to the International Telecommunications Union (ITU), at the end of 2010 there were 4 billion mobile subscriptions in the developing world with the penetration at 70 per cent[1]. ITU's statistics show that mobile subscriptions in the developing world have increased from a meagre 7.9 per 100 inhabitants in 2001 to 77.8 in 2011. This rapid proliferation and adoption of mobile phones have opened up possibilities for many in the low income countries to be a part of the ICT revolution and the development process bringing them access to information that was previously not within their reach. For many people from the poorer communities in developing countries, the mobile phone was their first ICT device and gave them an opportunity to stay connected at an affordable price.

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[1] Retrieved from International Telecommunications Union's Database -
http://www.itu.int/net/pressoffice/stats/2011/03/index.aspx
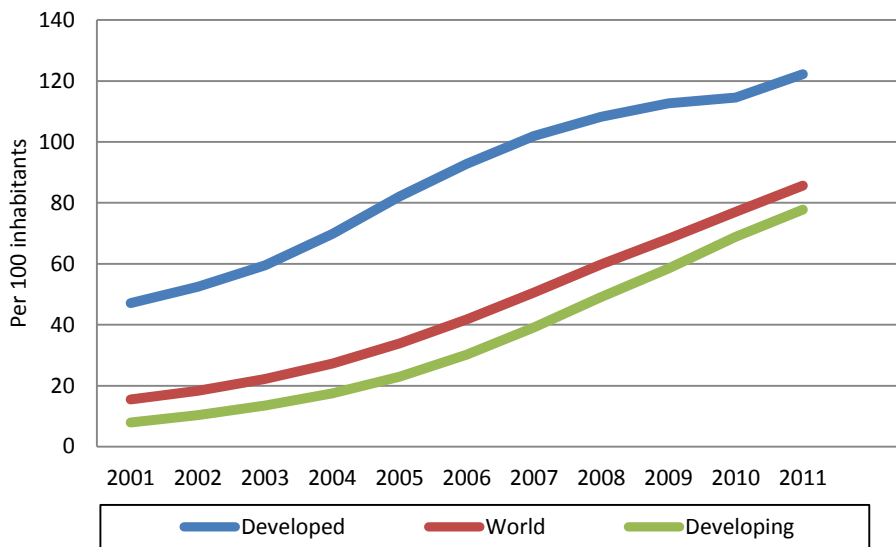
Figure.1 Mobile-cellular subscriptions per 100 inhabitants (ITU)

2001-2011

In developing countries like India, which is the focus of this study, mobile phone adoption has been at an astonishing rate since its introduction in the early 1990s. This was due to the market oriented deregulation and liberalization policies of the government along with competition among different service providers helped to reduce tariffs contributing to make mobile communication accessible and affordable for the masses (Castells 2007; Singh 2008). Moreover, mobiles phones provided the advantage of mobility which Boettinger, as quoted in Donner (2008), rightly points out that 'the telephone was the first device to allow the spirit of a person expressed in his own voice to carry its message directly without transporting his body' (Donner 2008), what the telephone missed was mobility and autonomy which the mobile phone had (Ling and Donner 2009). Hence, in countries such as India where landlines continued to be expensive, people substituted the landline for the mobile phones with the result that there were more mobile phone

subscriptions than there are landline connections. In addition, mobile phones also gave the advantage of flexibility to its users.

Consequently for many in the developing countries, it offers the most important of basic functions which is affordable, basic and individual connectivity (Beaubrun and Pierre 2001; Donner 2008) becoming a 'mass commodity' that has transcended economic and social boundaries in many countries especially the developing ones where fixed landline infrastructure is lacking.

Donner (2008) opines that for those concerned with economic development the mobile is an enabler of broad based prosperity and it is interesting to note how mobile use accelerates, complicates, or otherwise interacts with the process of economic development (Donner 2008). A similar idea is expressed by Jeffery and Doron (2011) who point out that 'the mobile phone can be an equalizer; it has the potential to open to low-status people possibilities that they never had before (Jeffrey and Doron 2011)'. Studies show that the rapid penetration and adoption of mobile phones in developing countries indeed have economic and social implications (Katz 2006; Abraham 2007; Castells 2007; Jensen 2007; Donner 2008; Ling and Donner 2009; Jeffrey and Doron 2011; Sreekumar 2011).

While mobile phones are a part of Information Communication Technologies (ICTs) tools, the focus in development has been primarily on the internet and how disadvantaged or marginalized communities can access information to solve economic problems and thus alleviate poverty. However, there were considerable challenges in realising this potential of ICTs in several developing countries due to socioeconomic constraints faced by the poor. Many developing countries that had initiated internet facilities aimed at development of the poor failed to maintain these facilities, with maintenance being expensive and at times unavailable. Further, these facilities were not equally accessible and were concentrated in urban areas, whereas a considerable population in most developing countries live in the

rural areas. Women, for example faced difficulties in accessing these facilities due to social and cultural barriers like being unable to travel long distances unaccompanied by a male family member, or did not have the economic resources to make use of the opportunities. With maintenance and scarcity of funds being among the key problems, some of these facilities were shut down in many of countries due to inability to maintain the requisite infrastructure. There also was the issue of relevant content, lack of education, language barriers, etc which further hampered the earlier development agendas. But the increased adoption of mobile phones gave an opportunity to connect rural poor to the information society without the constraints faced earlier; even women were able to make use of the benefits of development afforded by mobile phones.

This rapid adoption of mobile phones in most developing countries saw a new drift in development called Mobiles for Development (M4D) which explores how the adoption and use of mobile phones can help to solve economic and social problems. Moreover, while mobile phones do not help bridge the digital divide, they opened up opportunities for those who were previously left out of the ICT revolution. The belief that M4D can aid in development has initiated several programmes in agriculture, health (mhealth), mobile banking (mPesa in Kenya) and so on. There are studies on how the adoption of mobile phones have benefited communities, like Jensen's (2007) study focussing on the fishing community in Kerala which found that when fishermen adopted mobile phones there were significant economic benefits. Other studies like those of Chib and Chen (2011) show how mid-wives in Indonesia through the use of mobile phones were able to perform their job roles efficiently and effectively, resulting in economic and social gains in their lives which translated into empowerment. The women were able to help their clients in a timely manner, earn a stable income, and gained the respect of the community they lived in.

Thus, this thesis is an examination of role of mobile phones in the lives of fish vending women, the reasons of its adoption and to understand the economic and social impacts of its use on their lives. The women here belong to the marginalized fishing community in Thiruvananthapuram, India. The study further tries to explore and understand whether the access to and use of an ICT, such as the mobile phone, empower these marginalized women. Chapter 3 describes in detail the fishing community the women belong and provides the background of the study.

1.1 Objectives of the Study

The rapid adoption of mobile phones in developing countries has social and economic impacts; a number of studies attest to this fact (Cecchini 2007; Lekoko and Morolong 2007; Rezaian 2007; Donner 2008). There is the dominant discourse among ICT and Development (ICTD) practitioners of the socioeconomic and empowering potential of ICTs. Mobile phones, for instance, are easy to use, accessible, relatively inexpensive, and more widely available than the personal computer or the Internet (Ling 2004) making it one of the most commonly adopted ICTs in most developing countries.

Women often lag far behind men in access to land, credit and decent jobs, even though a growing body of research shows that enhancing women's economic options boosts national economies according to the United Nations. The World Bank estimates that two thirds of the world's poor and illiterate are women. Mobile phones have been attributed with the ability to make a difference in the lives of women from backward communities by providing them access to economic opportunities, health services, banking, employment opportunities, and educational tools. The objective of this thesis is to explore the use, benefits of adoption and the resulting economic and social impacts of mobile phone use by fish vending women from the marginalized fishing community from the southern coastal

district of Thiruvananthapuram in Kerala, India. The thesis seeks to understand how the mobile phone contributes to the economic and social development of the women in this community.

Development literature, further lauds the economic and social benefits of ICTs in aiding in the empowerment of backward communities in developing countries; there is also the notion that access to and use of ICT tools facilitates empowerment of women from these communities (Hafkin and Huyer 2006). There are a number of studies that illustrate how mobile phone use will help give voices to those marginalized by lack of access to other ICTs (Donner 2008). Moreover, the empowerment of women is seen as the catalyst for the development of a community. Thus in addition to understanding the economic and social impacts of mobile phones, the secondary objective of this research is to explore the extent of empowerment the fish vending women experience in their lives.

1.2   Development Approaches and Women

Women have been at the bottom of the development agenda with policies being drawn in the context of them as wives and mothers (Momsen 2006) until early 1970s. Their status' in comparison to men is one of subordination and disempowerment; women seldom had control over resources and decision-making processes (Moser 1993). Further, studies illustrate that societies that discriminate on the basis of gender tend to suffer from greater levels of poverty, poor growth and standards of life hence necessitating gender equality as one of the conditions for development (Momsen 2006).

Until the early 1970s, the underlying presumption in development was that the benefits of macroeconomic policies would benefit everyone including women poor. It was further presumed that poor women would also stand to benefit as the economic conditions of their husbands improved. The challenge to this presumption was offered by Boserop (1970) who

put forth the argument that women were only being associated with backwardness (Boserup 1970). This resulted in the Women in Development (WID) perspective which put forward 'women as an untapped resource who can provide an economic contribution to development (Moser 1993)'. The WID approach focussed on 'a home, family, and social-welfare' and 'saw women as passive recipients of development benefits (Hafkin 2000).' Moreover, the women in development approach was constricted by its focus on women's issues in terms of their sex thus differentiating them from men in terms of gender; gender was understood as 'the social relationship between men and women, in which women have been systematically subordinated (Oakley 1972 (pg 152) as quoted in Moser 1993).' This brought about the gender and development approach which stressed the requirement to focus on gender relations when drawing up policies that aimed at women in the development process.

The 1980s gave rise to the empowerment approach in development which was put forward by women from the Third World (developing countries). The focus of this approach was to empower women through increased self-reliance. In addition to this, women's inferior status or subordination was not only seen as a problem of men but more so of colonial and neo-colonial oppression. Moser (1993) states that this approach recognised the triple role played by women and sought 'to meet strategic gender needs indirectly through bottom-up mobilization around practical gender needs'; and found favour with NGOs working in the Third World.

The empowerment approach also brought to fore issues regarding the consequences of new technologies on women's economic and social roles necessitating a focus on gender gaps in technology. It must be noted that compared to men, women experience increased levels of hunger, malnutrition illiteracy, exploitation in terms of overwork and sexual abuse (Odame 2005). Odame (2005) extends the case that women require information and want to participate in communication that will help to improve their livelihoods. However, as

Mitter and Ng (2005) point out ICTs are not gender neutral and will not empower women, as much depends on the socio-cultural and political context into which it is introduced. Moreover, women need to become active agents of their own development. Women are especially able to benefit from the adoption and use of ICT devices which enable them to participate in the development process which they were earlier denied access to due to their inferior status. The example of rural Moroccan women weavers organising themselves online to market their produce is a case in point of how women are able to leverage on the potential of ICTs to create a way to market their produce thus being able to generate income and reduce or all together eliminate the middleman (Davis 2005). In the case of the rural Moroccan women, they were able to use ICTs to improve their lives though disadvantaged by class, location and culture. Hence women need to become agents of their own development.

The next section reviews ICTs and development literature to examine how mobile phone adoption and use benefit women and contribute to their development. ICTs have been agents of change in many developing countries where people, especially the poor were denied access to information due to lack of affordability. With many of these countries liberalizing their telecommunications policies, people were able to transcend the difficulties that earlier denied them access. The following section will review literature pertinent to this thesis and draw out the research question.

1.3 Literature Review

1.3.1 ICTs, Development and Women

Information and knowledge is essential for the functioning of societies, they are the links through which understanding is passed on and social relationships are established (Unwin 2009). While current discourse on development identifies ICTs as a requirement for economic growth and alleviation of social conditions in developing countries, the lack of

ICTs in these countries was identified by international development agencies as one of the primary reasons for the increasing gap between the developed and developing nations; developing nations were urged to adopt ICTs that proved beneficial for the industrialized nations (Avgerou 2003) under the assumption that the same technology would enable them to leapfrog the gap. Developing nations, thus put in place strategies to promote ICTs both on the production and consumption side (Heeks 2002; Arun, Heeks et al. 2004); the common premise being that ICTs led to effective economic reforms by broadening and providing prompt access to information and knowledge for people and this would enable greater participation in events of their everyday lives.

There is also evidence that ICTs can promote the welfare of communities that face information paucity (Eggleston, Jensen et al. 2002). The Grameen Phone Village Pay Phone project which leased mobile phones to low-income women in agricultural villages in Bangladesh is one such example of how ICTs can provide benefits; it was found that most calls made were for economic uses such as finding out the prices of commodities, employment opportunities, remittances, land transactions, etc (Bayes, Braun et al. 1999).

Other studies focussed on the adoption of ICTs in developing countries and the relationship between ICTs and economic development and its role in poverty alleviation (Avgerou 2003; Wilson 2004; Cecchini 2007; Lekoko and Morolong 2007; Rezaian 2007). These studies echoed the conclusion that while developing nations stand to benefit from using ICTs as tools for economic development and poverty reduction; they needed to incorporate ICT policies into their development strategies and carry out analysis of the effectiveness of their ICT investment. For example, Rezaian (2007) points out that the integration of ICTs in development strategies is a necessary but not sufficient condition to aid in the socioeconomic development of the sub-Saharan countries.

Other studies have focused on the gender based barriers to access and use of ICTs by men and women (Jorge 2002; Mitter 2004; Hafkin and Huyer 2008). Jorge (2002) notes that in

most developing countries where access to, cost of ICT and related infrastructure is a major development obstacle the problem is compounded by the fact that most women live in the peri-urban or rural areas where such infrastructure is either old or non-existent. Mitter (2004) documents the challenges and opportunities that traditionally disadvantaged women in developing countries face either as users or employees in ICTs-enabled sectors and suggests including women's groups in policy dialogues to understand the significance of ICTs for women in the developing world. Hafkin and Huyer (2008) elucidate the essential need to collect and analyze data – sex-disaggregated statistics and gender indicators on ICTs – in developing countries to understand how differently ICTs impact men and women as a necessity to achieving equitable distribution.

The objective of an effective information society should be to empower and develop people by providing equal access to and use of information (Goulding and Spacey 2002). The World Bank estimates that two thirds of the world's poor and illiterate are women (Melhem, Morrell et al. 2009). ICTs hold the potential to aid women's development and empowerment by giving women the opportunity to generate more income, access to information relating to health and other needs, and enabling them to improve the well-being of their families and themselves (Huyer and Mitter 2003); for example, women who have access to reproductive health information can contribute to their economic activities by improving their health resulting in decreasing number of children and increasing their income-earning ability. Another example is of an e-homemakers virtual network[2] that supports close to 10,000 Southeast Asian women working full-time outside the home to balance home-work issues through self-help innovations (Spence 2010). ICTs, as Huyer and Mitter (2003) point out, therefore are positioned as a medium for developing countries

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[2] http://www.ehomemakers.net/en/index.php

and backward communities to leverage on and participate in the information society to gain economic benefits both at the national and individual levels (Huyer and Mitter 2003).

The International Telecommunications Union (ITU) and World Bank studies show that investment in telecommunications infrastructure in many developing nations has led to growth and development in agriculture, fisheries, commerce, shipping, tourism, education, health and social services (Hudson 2006). Waverman, Fusch et al, point out that investments in telecommunications will benefit developing countries twice as much resulting in a higher Gross Domestic Product (GDP) rate than the developed countries. Other studies echo similar findings that investment in telecommunications does lead to economic gains (Sridhar and Sridhar 2007) in developing countries. Access to ICTs such as mobile phones have led to socioeconomic development and growth (Jensen 2007; Donner 2008; De Souza e Silva, Sutko et al. 2011; Sey 2011); as Ling and Horst (2011) note mobile phones have given low-income people and marginalized groups access to electronically mediated communication and that too for the very first time.

1.3.2   Mobile Phones and Development

Mobile phones have revolutionized the way people communicate and have been heralded as catalysts to socio-economic changes in many of the developing nations. It has a central role in most peoples' lives both among the urban and rural population alike. It has consequences for the societies that we live in (Ling and Donner 2009); the rapid adoption of mobile phones by people in the low and middle income households has given a new dimension to development researchers and practitioners who now consider the mobile phone as a tool to development giving rise to Mobiles for Development (M4D) (Donner 2010).

Mobile phones are the first of the ICTs to have reached most poor households and communities in developing nations (Heeks and Jagun 2007). Donner (2009) states that

while 'the social functions of the mobile are helping drive its widespread adoption, and these same functions inform the very behaviours that make the mobile a tool for economic development (Donner 2009).' Thus while reasons for adoption might be social benefits, the mobile phone has the potential to serve as a tool that contributes to economic development; studies illustrate how mobile phones have played a role in the development of agriculture, health, finance, and education among others (Heeks and Jagun 2007; Donner 2008; Jagun, Heeks et al. 2008; Donner 2010).

Specific studies have found that mobile phones yield economic benefits to fishermen (Abraham 2007; Jensen 2007; Sreekumar 2011), micro-entrepreneurs (Donner 2006; Jagun, Heeks et al. 2008; Donner and Escobari 2010), midwives in Indonesia (Chib and Chen 2011) and agricultural communities (Islam and Grönlund 2007; Aker 2008; Stone 2011). While studies in the developed industrialized nations have focussed on urban users and sought to understand the meaning of the mobile phone and its cultural implications, other studies have explored the motivations for its social appropriation (De Souza e Silva, Sutko et al. 2011; Garcia 2011; Ling and Horst 2011; Sey 2011; Wallis 2011). However, the reasons for appropriation of mobile phones are intertwined with its benefits.

Studies such as those of Jensen (2007) in Kerala on the fishermen's use of the mobile phone illustrates the benefits associated with mobile phone adoption; it led to better market performance, price distribution and helped to reduce the wastage of fish resources. Further, Jensen was able to find a small but significant increase in the fishermen's incomes after using mobile phones. Abraham's (2007) study on the same group supports Jensen's findings and further finds that there is market assimilation and that price fluctuations are reduced. Hence these studies by Jensen and Abraham supports the premise that 'information and communication are valuable commodities that can enhance the functioning of markets critical for the well-being of the poor (Eggleston, Jensen et al.

2002).' Sreekumar (2011), in his work on mobile phones and fishermen point out that adoption of mobile phones helped them to further their collective knowledge sharing behaviour.

The study of the micro-entrepreneurs in Rwanda by Donner (2006) shows how mobile phone ownership aids in economic and social benefits; the example of the woman restaurateur is a case in point. Her mobile phone helps her carry out her business transactions efficiently and at the same time helps her customers save time by ordering food before they arrive. This ability to coordinate using the mobile phone helps to increase efficiency while at the same time translating to improved economic gains. Jagun, Heeks et al. (2008) in their case study of Nigerian hand-woven textile enterprises state that these small scale enterprises are confounded by a dearth of information which hamper their supply chains which makes trade localised, increased reliance on middlemen, higher costs and risks. But they found that mobile phones beyond providing the first form of reliable access to telecommunications, help these entrepreneurs save time (usually spent travelling), increase awareness of opportunities for trade, reduce communication costs in terms of time spent on travelling, transportation costs and lost opportunities that usually had to be given up due to travelling, reduction of risks associated with travelling. It has also enabled the entrepreneurs to monitor production processes and increase customer satisfaction.

The case of the mobile ladies in Bangladesh is another example of how mobile phone use can contribute to enhancing livelihoods by making information accessible to those in rural locations or marginalized groups (Raihan 2007). The greatest need in these rural villages was for health and agricultural related information. Thus being able to access information via mobile phones helped the villagers save time, money, travel and also costly middlemen. For many of the women in the village who had never travelled far, information

was available easily; the study found that 36 per cent of mobile service users were housewives. Moreover, the mobile ladies project provided a profession for many women in these villages. According to Raihan (2007), 'the project has shown mobile phones can help connect the disconnected and address important social and economic needs.' The Grameen Village pay phone programme in Bangladesh is another such example of empowering women through ICT adoption in rural areas where there was a dearth of information and access to these technologies (Richardson, Ramirez et al. 2000; Aminuzzaman 2002).

Benefits of use are not limited to economic impacts; there are social impacts to mobile phone use (Donner 2006). Donner (2006) recounts in his study, how micro-entrepreneurs in urban and rural settings in Rwanda are using the mobile phone to develop new business ties and to strengthen existing social networks. A micro-entrepreneur, estimates that his business has increased by 30 per cent since he started using the mobile phone. Thus, the study is illustrative of how mobile phones while aiding in economic benefits also have social uses, strengthen existing social-networks and help in creating new ones. In another study of the social appropriation of mobile phones among low-income communities in Brazil (De Souza e Silva et al 2011), findings suggest that these communities face significant difficulties in obtaining and using mobile phones due to their economic and social conditions and had problems in gaining access to phones via legitimate means. It was easier to acquire phones through illegal means such as thievery, and many in these communities felt that owning a mobile phone equals to 'an embodiment of social relations' (De Souza e Silva, Sutko et al. 2011). Moreover, mobile phone use helps to reduce the social time and space (Green 2002). Thus, in addition to the documented economic and social impacts and benefits of mobile phone adoption and use in developing countries, there are studies that point to the social and personal advantages to adoption among the low-income communities (Sey 2011).

1.3.2.1 The Mobile Digital Divide

There has also been great enthusiasm that the adoption and use of mobile phones can help bridge the digital divide. The 'digital divide' refers to the gap in access particularly of the Internet to low-income communities and ethnic minorities both within and between the developed and developing countries (Hudson 2006), the term is used with similar connotation with reference to mobile users and non-users. While the digital divide is measured in terms of Internet users against non users, the mobile phone will only help in giving people access to ICTs and not necessarily help bridge this divide. However, according to Servaes (2002), for many of the world's poor whose basic needs were not integrated into the personal computer, the mobile phone offered the appropriate alternative (Rice and Katz 2003).

The digital divide is not uncommon in the developed nations and while earlier studies on the question of 'divide' have focussed on the developed nations, the divide existing between the rich and the poor, the urban and rural populations were more pronounced in the developing nations. In the developed countries, the digital divide has decreased with increased penetration of ICTs, thus reducing the gap (Rice and Katz 2003). But in developing countries though adoption rates have been increasing, the gap is still large. One of the primary reasons for this is that many ICT facilities in developing nations tend to be situated in the urban locations while a large population live in the rural areas. Added to this is the fact that people, especially rural women faced difficulties in access since they were limited by cost, the need to travel alone and unaccompanied, lack of relevant content and further bound by their traditional and cultural practices. These reasons had a contributing part in the gender digital divide as well.

The rapid adoption of mobile phones in developing countries is thus of significance. Rice and Katz (2003) note that in most developing countries, mobile telephony plays a vital role in deliberations on the digital divide. While, there is still a gap in access, mobile phones

have contributed to reducing this divide in developing countries (Castells 2007). The liberalization of telecommunications policies and promotion of competitive price plans as a part of ensuring universal access in developing countries is not a sufficient condition to guarantee a higher rate of penetration (Donner 2008). However, there are studies which put forth the assertion that mobile phones have the potential to close the access divide since they are available and comparatively more affordable than other ICTs (Wade 2002). While for many users of the mobile phone, price was not the only deciding factor, cultural and demographics factors also had a contributing role in its widespread adoption (Servaes 2002). Further, in many of the developing countries, people from the low-income groups where increasingly choosing to use the mobile phone which indicates that price was not a barrier to adoption (Rice and Katz 2003).

Alongside the digital divide, there exists a gender dimension to the digital divide. This divide manifests in the use and access of mobile phones as well. Though, ICTs have contributed to women's development, enabling them to maintain livelihoods (Jorge 2002; Huyer and Mitter 2003; Chib and Chen 2011) and social cohesion in communities (Gumede, Bob et al. 2009), women are likely to experience reduced access and have lesser opportunities for using ICTs. The problem of gendered access to technology limits women's participation in the economic and social development of the communities they belong to. Women have important roles to play in the household and the community and hence development of women is considered a necessary for the development of the community.

1.3.3 Gendered Use of the Mobile Phone

Studies show that men and women use ICTs differently (Jorge 2002); men use it for instrumental purposes while women find social benefits to its use (Zainudeen, Iqbal et al. 2010). Ling and Horst (2011) note that 'gendered use of the mobile phone can put

women's situation in visible relief.' Fischer points out that the landline telephone, a masculine technology in its initial days, was appropriated for feminine ends as quoted in Castells (2007). Women's socioeconomic state coupled with their responsibility to maintain community ties and their need to social interaction was what led to the appropriation of the landlines. Thus, while there is a libratory aspect to the appropriation, it also reinforced the gender difference and roles (Rakow and Navarro 1993; Castells 2007).

Studies point out the use of mobile phones by women, thus shedding light on how it is used to perpetuate the gender difference (Stewart 2004; Chib and Chen 2011; Garcia 2011; Madianou and Miller 2011). Many women use mobile phones to manage their traditional role of being a mother; this is highlighted by Rakow (1993). A study focussing on the use of mobile phones by Filipino women working as maids in the United Kingdom show how these women manage their role of being a mother, and further illustrates how mobiles helped these women negotiate their role of motherhood while creating a sense of participation in the lives of their children (Ling and Horst 2011).

Castells (2007) states that across countries gender-related findings illustrate that women value safety and security; this was one of the primary reasons that contributed to women's adoption of the mobile phone. The mobile phone, according to Jagun et al (2008), sets women into a larger frame of events and gives them the opportunity to enlarge their zone of interaction by giving them access to information that was previously out of their reach, and the opportunity to participate, organise and conduct transactions that they were either denied or not accessible due to restrictions placed on them.

1.3.3.1 Gender Digital Divide: ICTs and the Mobile Phone

ICTs are not gender neutral (Hafkin and Huyer 2008); it is sometimes a tool that reinforces the gender differences between men and women in terms of its availability, access and use as previously stated in the earlier sections. However, in the recent years, development practitioners have suggested that ICTs have the potential to benefit women in improving

their livelihoods and thereby empowering them. Focussing on improving the livelihood of women is necessary for fostering the development of a community. As Odame (2005) contextualizes, poor women have realized the need for information and want to engage in communication processes that would result in better livelihoods and as a means to achieve their human rights, but face gender inequalities by being denied equal access to participate in these processes.

Gender divide is defined by women having reduced means of access to ICTs (Gurumurthy 2004). Women from poor backward communities and less urbanized areas have more difficulty in accessing ICTs (Elnaggar 2008). Several studies point out the gender inequalities meted out to women in terms of access (Mitter 2004; Jorge 2006; Wakunuma 2006; Elnaggar 2008; Hafkin and Huyer 2008). In one such study of Arab women's use of ICTs in Oman found that women were being marginalized due to their unequal access to training, lack of content in local language, relevant content, and lack of ICT advocating policies which were further perpetuated by socio-cultural reasons like a tradition bound, male-dominated society (Elnaggar 2008). The World Bank conducted a study to understand the specific problems of women in developing countries as they try to capitalize on the benefits afforded by ICTs. The World Bank identified the following as the main problems firstly, there exists a gap in terms of access to these ICT facilities; secondly, there is a limitation in ICT use; thirdly, women face issues with lack of relevant content thus reducing the utility; lastly, they face problems in access to ICT education at all levels, from primary school to higher education.

Besides, fewer women have access to ICTs when compared to men, this has created new inequalities and reinforced existing ones; 'it has become clear that many persistent gender-specific structural inequalities constitute barriers to women's access such as education, traditional cultural beliefs and practices, economic inequality, etc. In fact, ICTs are designed and created within male-dominated environments and as a result, they do not

necessarily correspond to the specific needs of women (Huyer and Sikoska 2003).' Mitter (2004) also makes the same assertion, 'women have to face greater barriers than men in receiving education and training that can equip them with computer literacy, English literacy, and business skills.' Furthermore, this is also perpetuated by their constant poverty, geographical location and their cultural values and backgrounds (Hafkin and Taggart 2001; Zainudeen, Iqbal et al. 2010). They also live in patriarchal situations which again puts them at a disadvantage in terms of access and control (Huyer and Sikoska 2003; Mitter and Ng 2005).

Consequently, these limitations faced by women results in the gender divide in terms of use and have led to an increase in the marginalization of women from the economic, social and political mainstream of their countries and of the world (Hafkin and Taggart 2001; Zainudeen, Iqbal et al. 2010). However, the example of the Grameen Phone Programme in Bangladesh illustrates the potential of ICTs to aid in women's economic alleviation and thereby resulting empowerment (Richardson, Ramirez et al. 2000; Aminuzzaman 2002; Jorge 2002; Mitter 2004). There are other documented examples of self-employed women in India, Malaysia, Peru and Ethiopia successfully using ICTs as a means of earning income for survival (Mitter 2004). Case studies from Argentina, Morocco, India, Malaysia and the Philippines show how ICTs can lead to changes in women's positions within their families and workplaces and give them better options for their livelihoods (Ng and Mitter 2005).

Most studies on gender difference in access to ICTs have focussed on the developed countries (Castells 2007; Hafkin and Huyer 2008; Wallis 2011), though studies focussing on developing countries and marginalized groups of women (Chib and Chen 2011; Garcia 2011; Wallis 2011) are slowly on the rise, it is also pertinent to point out that the number of studies on the mobile digital divide is again few. Castells states that in places with higher levels of diffusion the gender gap in use is reducing. Moreover, as mobile phones

become more accessible, people from all sections of society are adopting the mobile phone. Ownership of mobile phones is higher among males than females however, this difference in ownership tended to decrease as mobile penetration rates increased (Castells 2007).

Lack of data based on gender makes it difficult for gender inclusive policies in developing programmes that use ICTs. Most countries that do have gender statistics tend to be the developed ones like the United States, Norway, Hong Kong, Singapore, etc where the gender digital divide tends to be least marked (Hafkin and Huyer 2008). Hafkin and Huyer (2008) further state that where data is available on access and use of ICTs women's participation in the information society leaves a lot to be desired and often times lags behind men; and in those countries where access and penetration is high, the issue is of inequalities in use which can be a constraint to women's economic and social development.

1.3.4   ICTs and Empowerment

ICTs offer a myriad of possibilities and means for women's development and to lessen their marginalization by empowering them economically and socially. ICTs can play a central role in the lives of women in developing countries and are a priority for these women. There is evidence to suggest that poor women are willing spend their limited income on ICTs if they are able to gain economic benefits, but even then 'women's participation in the knowledge economy is low and in developing countries, much lower than their use of ICTs (Huyer and Carr 2002)' and 'in order for women to benefit equally from the possibilities of the knowledge society, they need to participate in it actively from a position of independence, choice, capabilities, and action (Hafkin and Huyer 2006).' To be able to participate, the authors mention empowerment and gender equality as necessary prerequisites. According to the World Bank, gender equality is a basic human right to live

the life one has chosen for oneself. Hafkin and Huyer (2006) also point out that 'ICTs can be important tools for gender equality and women's empowerment in both society and work, particularly for poor women in developing countries.' They cite various examples of how ICTs are helping women in developing countries to improve their lives; there are several examples of ICT projects that were initiated in various developing countries which have benefited women from backward communities. ICTs such as the internet and mobile phones enable women in these nations to capitalize on opportunities afforded by the global information society and enhance livelihood means; notable among these is the Grameen Phone Project from Bangladesh.

Women should be critical players in the information society as producers, consumers, advocates, entrepreneurs, and users (Jorge 2002). But 'the whole economic sphere is culturally defined as a men's world (regardless of the presence of women in it), while domestic life is defined as a women's world (regardless of the presence of men in it) and (that) women and men are very differently located in the economic process (Connell 2009)'. These multiple roles women perform as caregivers, homemakers and community enablers limit them from actively participating in this information society. While ICTs enable women to enhance their livelihoods economically and socially, ICTs affect men and women differently and in most situations women experience disadvantages that lead to reduced access to and use of these tools (Huyer 2006). Thus gender equality is a component to women's empowerment. Policies need to be implemented by governments in making sure that gender equality issues receive a fair share of attention and that women in these nations do not get sidelined due to the issues they face. For the purpose of this thesis, it is necessary to define empowerment.

1.3.4.1 The Concept of Empowerment

For the purpose of this research, Malhotra, Schuler and Boender's concept of empowerment is used; to them empowerment is a sum total of a few concepts: options, choice, control, and power (Malhotra, Schuler et al. 2002). They view empowerment as a bottom-up than a top-down approach, a condition which is marked by a process of change from a condition of disempowerment. Empowerment, viewed in these terms would result in women being able to make their own decisions, benefit from resources and opportunities and exercise control over their lives which in turn would lead to their improved well-being (Huyer 2006).

Women and the poor, who generally form the weaker sections of society, are likely to benefit from empowerment. Women, in most developing countries live in patriarchal structures which limits their participation in the decision-making process and challenging these structures might be necessary to ensure women's empowerment (Huyer and Sikoska 2003). Women also tend to lack economic stability which undermines opportunities that will benefit them. Empowerment for these women thus will be a gradual process of change from this position of disempowerment. ICTs offer women a possible solution to enhance their livelihood means which can lead to their empowerment (Richardson, Ramirez et al. 2000; Huyer and Carr 2002; Jorge 2002; Mitter 2004; Muturi 2006).

ICTs can aid in women's empowerment and can function 'as tools for women's active participation in improving their situations; simple access to information and improved communications can end the isolation of women and promote improved health, access to reproductive services, economic growth as well as alleviate poverty (Huyer and Sikoska 2003).' Others like Huyer and Carr (2002) have echoed similar beliefs. Huyer (2006) notes that economic empowerment of women will result in their participation in the decision-making processes about family resources and income, access to employment, etc. The social empowerment of women will result in freedom to move around, and reduced

discrimination and access to education and increased literacy. The Grameen Bank village pay phones programme (Richardson, Ramirez et al. 2000) and the mobile telephone ladies programme (Raihan 2007) are examples of ICTs being used as tools to empower women economically. The Grameen Bank's village phone pay programme is also an example socio-cultural empowerment of poor Bangladeshi women who were able to enhance their social status by being able to access a means to communications (Aminuzzaman 2002).

In most developing countries, women often struggle to meet the economic needs of the family and are socially responsible for maintaining community networks. Women have multiple roles to play as mothers, homemakers, and caregivers (Huyer and Mitter 2003) relegating 'their ability to function on an equal basis with men in most economic spheres (Mitter 2004).' Majority of women also do not have access to ICTs that are specific to their needs nor are they effective participants in ICT for development process. Moreover, these benefits have not been accessible to most due to the digital divide and also particularly for women due to the gendered nature of ICT access and use.

It is in this context of the gendered nature of ICT access and use that this thesis proposes to understand marginalized women's use and benefits of mobile phone adoption and how these translate into economic and social gains.

1.4 The Research Question

Poor communities often live in conditions of acute poverty which disadvantages them from being able to access the ICT resources which would enable them to participate in the creation of economic and social opportunities to enhance their livelihoods. This is especially true for women who are more or less unable to access ICTs due to lack of time as they have to play multiple roles in the household and community. Moreover, women are unable to have equal access to ICTs due to their gendered nature and use; in addition to

their limited economic resources, women also face socio-cultural and structural barriers. For ICTs to serve as tools that aid in their development, women must have gender equal, reliable and affordable access to them. Infodev, a World Bank partner, notes that with increased connectivity via the use of the internet and mobile phones, poor people are able to address their communication and information needs by being able to access resources like market information, financial and health services thus ushering changes to people's lives in unprecedented ways (infoDev 2009).

According to World Bank economist, Christine Zhen-Wei Qiang, mobile phones are emerging as the most powerful means to extend economic resources and key services to millions of people (infoDev 2009). It is their mobility, ease of use, flexibility and accessibility that makes the mobile phone the most adopted technology in the developing countries. Marginalized communities are able to experience improved access to resources like market information, financial and health services after adopting mobile phones. Phones are especially valuable to women in marginalized communities where their status is lower and where they experience higher levels of discrimination. Thus the main research question the thesis sought to understand is the use and benefits of mobile phone adoption by fish vending women from the marginalized fishing community in Thiruvananthapuram, India.

Access to ICTs, such as mobile phones while being tools to economic and social development, can also lead to empowerment of marginalized women. Empowering marginalized women through the use of ICTs is essential for the development of the community they belong to. As the many studies quoted on in the earlier sections assert, by being able to access ICTs women can make considerable differences to their lives. When women have the ability to use, access and the opportunity to benefit from ICTs to improve their lives and status in the households and communities, they can be considered as

participants of the information society. This ability to use ICTs can potentially contribute to their social, economic and political empowerment. In the case of the fish vending women, it thus becomes necessary to understand the role of the mobile phones and its ability to enable agency, capability, choice and its process of supporting change from a situation of disempowerment. The secondary research question that this thesis thus seeks to answer is whether the fish vending women in being able to access and use mobile phones experience empowerment.

1.5 Significance of the Study

Like the radio and the television of the past, ICTs have tremendously influenced societies both in developed and developing countries. Section 2.1 reviewed literature on ICTs and developments and the contribution of mobile phones to development. The literature points to the evident role of mobile phones to the economic and social development among the poorer communities and women in developing countries. Mobile phone adoption in these countries has in a way addressed the problem of the digital divide though it is not a solution to it. While the benefits of ICTs are multi-fold, its distribution is unequal in most developing countries; poor women in the urban and rural areas experience unequal distribution. The fisher women belong to a community that is placed at the fringes of development policies. According to the Kerala Development Report, women from the low status occupational groups, such as the fishing communities, are not beneficiaries of the mainstream development gains (India. Planning Commission 2008). Moreover, in India women belong to one of the most socially excluded groups. This exclusion becomes even more pronounced when they are unable to access information thus being unable to participate and contribute to the process of development. It is also evident from the review that the uses of mobile phones differ greatly between men and women highlighting that men use to fulfil instrumental purposes while women tend to rely heavily on its social

benefits. This further perpetuates the fact that ICTs are not gender neutral making the mobile phone a tool that reinforces the gender differences between men and women. With ICTs being endorsed as the 'building blocks of the networked world' (UNDP 2001) it is necessary to assimilate the opinion of Goulding and Spacey (2002) that the ultimate goal of ICTs should be empowerment and development achieved through equal access to and use of information. Thus, the inability of poor women to access information is a major obstacle to their socioeconomic development and empowerment since ICTs would eventually help them in 'meeting their basic needs and can provide access to the resources that will lead them out of poverty (Hafkin and Taggart 2001)'.

In the fishing community, mobile phones have emerged as one of the most adopted forms of ICTs; earlier studies by Abraham (2007), Jensen (2007) and Sreekumar (2011) attest to this fact. This proliferation can be attributed to a number of reasons like accessibility and cost effectiveness, minimum levels of literacy, ease of use and mobility; these are features that the personal computer lacks. However, women still seem to be at the bottom of the adoption cycle. By understanding the economic and social impacts of mobile phone use by the fisher women, the study addresses the pervasive idea that access to information will aid women in improving their livelihoods and thus enable them improve their quality of life. Many women face economic and social constraints in terms of reduced income, literacy, time, mobility, and other cultural constraints that are pertinent to their cultural backgrounds. It is also necessary to note the women from the fishing community are more disadvantaged than others.

Tantamount to the economic and social development potential of ICTs, is its role in empowerment of women from the marginalized communities. There is an increasing amount of literature that puts forth the assertion that ICTs can provide opportunities which enable women's empowerment. One of the Millennium Development goals of the UNDP is to empower women through the effective use of ICTs. But since women have been

traditionally excluded from resources to access information, it has resulted in their marginalization in terms of empowerment. The study would aim to add to its significance by exploring empowerment as experienced by the fisher women through the economic and social impact mobile phone use has in their lives.

The following chapter, Methodology and Design of Study, reviews in brief the different theoretical perspectives in social sciences research followed by the explanation of the design methodology and the limitations. The chapter will also provide the rationale for choosing to study marginalized fish vending from the particular community in Thiruvananthapuram, India. Detailed descriptions of the sampling and interview processes are further provided along with a description of the data collection process and the issues that were encountered in the field.

2. Research Methodology and Design of Study

This research explores the social and economic impacts of mobile phone adoption and use by fish vending women from the marginalized fishing community in Thiruvananthapuram, India. It further seeks to explore the role of mobile phones in empowering the fish vending women. The assumption guiding this research is the recognition of mobile phones as a requirement for enabling development through alleviation of the social and economic conditions of fish vending women belonging to marginalized communities in developing countries and thereby empowering them.

Research design is often shaped by the constraints offered by the research context and research problems. This research uses qualitative methodology to probe this assumption. It is a descriptive ethnographic study using in-depth semi-structured interviewing supplemented by field observations for data collection.

2.1 Defining Scope of the Methodology

'Research is a process of trying to gain a better understanding of the complexities of human interactions (Marshall and Rossman 1995).' The research objective and purpose guides the selection of methodology. Methods in social sciences are divided into quantitative or qualitative.

Social Science in particular is guided by two dominant theoretical perspectives, positivism and phenomenonology. The positivist searches to understand social phenomena from outside the individual's experience while the phenomenologist searches to understand it from the subject's lived experience (Taylor and Bogdan 1998). Thus, quantitative research has its foundations in the positivist epistemological position which uses statistical means to provide evidence for certain phenomena studied. In contrast, qualitative research encompasses different epistemological positions such as positivism, post-positivism,

phenomenology, interpretive, feminist, postmodernist, ethnomethodology, critical and standpoint (Hesse-Biber and Leavy 2004). This inclusive characteristic of qualitative methodology offers in-depth and nuanced answers to a variety of questions that help to understand complex sociological processes.

Qualitative methods offer the researcher with the possibility to study unanticipated opportunities within the lives of the population being researched and rather than focussing on the broader population, they seek to understand behaviour within specific social settings unlike quantitative methods (Holliday 2007).

For the purpose of answering the research question, it was necessary to indentify a suitable methodology. As this research sought to understand the economic and social impacts of mobile phone adoption, use and its role in the empowerment of marginalized women, it was necessary to choose a method that would seek the answer from a more human experience perspective.

Thomas' (1979 as quoted in (Marshall and Rossman 1995)) assumption that in the study of human experience, it is essential to know how people define their situations is significant to this research. In addition to this, qualitative methods seemed best suited to engage with the population chosen as it would help the researcher to study closely their 'values and seeks to discover participants' perspectives on their worlds,' and 'views inquiry as an interactive process between the researcher and the participants, is both descriptive and analytic, and relies on people's words and observable behaviour as primary data.'

Qualitative methodology allows for the researcher to explore the women's use of their mobile phones in everyday situations thus helping to 'produce rounded and contextual understandings on the basis of rich, nuanced and detailed data (Mason 2002).' Wilson (as quoted in (Marshall and Rossman 1995)) also points out that human behaviour is

significantly influenced by the setting in which it occurs, thus one must study the behaviour in such situations to be able to offer thick descriptions that qualitative approach is famous for. Only qualitative studies offer the possibility of studying behaviour in natural settings and allows for 'methods of data generation which are both flexible and sensitive to the social context in which the data are produced (Mason 2002).'

It was thus decided to choose the qualitative methods of in-depth semi-structured interviews to collect data.

2.2 The Research Location: Thiruvananthapuram

There were a few reasons that influenced the researcher's choice of Thiruvananthapuram as the setting or location of this research project. For satisfying the main requirement of the research project, it was necessary to identify fish vending and mobile phone using women from a marginalized community to which the researcher could gain access to without much constraint.

According to the Kerala Government Fisheries Department, there are 42 fishing villages in Thiruvananthapuram and the city is home to the most number of women from the marginalized community who are involved in daily fish vending activities. Moreover, gaining access to the marginalized community in the researcher's home city through local contacts and organizations involved in their development was relatively easier with the limited resources available to a Masters graduate student.

In addition to this, earlier studies on the marginalized fishing community from the researcher's home State, Kerala have focused on the community's use of the mobile phones (Abraham 2007; Jensen 2007; Sreekumar 2011). The women's adoption and use were hardly explored. Thus, it was necessary to explore the use, benefits and impact

mobile phone adoption had on the marginalized women, and its empowerment potential within an already marginalized community.

These were the reasons that influenced the choice of Thiruvananthapuram as the setting or location of this research project.

2.3 Sampling

Qualitative sampling is concerned with information richness; appropriateness and adequacy are two key requirements that guide the sampling technique. To ensure that these features of qualitative sampling would be satisfied, it was decided to interview 40 fish vending women between the ages of 25 to 60 from 4 different fishing villages in Thiruvananthapuram. Snowball sampling was used as the method to identify participants for in-depth semi-structured interviews. Snowball sampling was preferred since it was easier to have participants identify other fisher women who were mobile phone users. This sampling strategy ensured easier access to the women since some were neither directly approachable nor accessible.

Using snowball sampling techniques, women were interviewed from 4 fishing villages in Thiruvananthapuram. The fishing villages – Poonthura, Valiyathura, Veli and Marianayad are among the larger fishing villages and are places where more women are engaged in daily fish vending activities. In addition to this, the four villages are situated around beaches which are also landing centres. Landing centres are situated on beaches where the fishing boats come ashore and the catch is sold. Most of the fisher women buy the fish from the agents on these landing centres, and when fish is not available they travel to far away markets or to other landing centres to buy fish for selling.

The criteria for selection of participants were that they must own or use a mobile phone, and must be fish vendors. Moreover, the minimum age of the participants was set at 25

years and the maximum at 75 yrs; though this was not a concern since majority of the women interviewed were over the age of 35 and in their late 40s.

2.4 Interviewing as a Method of Data Collection

In-depth interviews are described as 'a conversation with a purpose (Kahn and Cannell 1957).' In-depth semi structured interviews were conducted as the primary data collection method. The semi-structured nature of the interviews allows for more room for expression by the interviewee than conducting structured interviews.

The researcher made use of a premade semi-structured interview questionnaire consisting of open-ended questions to make sure that all aspects of the research question were explored. The questions in the interview guide ranged from the demographic details – age, education level attained, etc to the range of uses and benefits they have of the mobile phone to the way the users feel it plays a role in their lives and the enabling potential of its use.

The interviews were conducted in the local language, Malayalam, which the researcher is proficient in. The interviews were conducted in a face-to-face setting. In complying with research ethics and the guidelines set by the NUS Institutional Review Board, all participants were briefed about the objectives and purpose of the research. In addition to the briefing, their verbal consent was sought for participating in the interview and also to be audio-recorded.

A total of 40 interviews were conducted, the interviews were audio recorded and later translated and transcribed in to English by the researcher for the purpose of data analysis. All interviews lasted for duration of 30 to 40 minutes depending on the convenience of the interview respondent.

2.5 Limitations of Qualitative Research Design

All research methodologies have its limitations (Patton 1987) and it is no different of qualitative methods. Qualitative methods are often criticized for their lack of replicability and objectivity (Cho and Trent 2006). Other limitations accounted for are its relatively smaller sample size and how the researcher's own subjectivity might influence the study. Objectivity in a qualitative study must aim at 'openness, a willingness to listen and to give voice to respondents' while due consideration must also be paid to the researcher's background (Strauss and Corbin 1998). The researcher has tried to adhere to objectivity by making a conscious effort not to let her values and culture influence the research project.

Measurement processes that offer the same answer whenever and wherever it is carried out are termed reliable measures while validity is the extent to which it gives a correct answer (Kirk and Miller 1986). However, this depends on the social life and situations that 'contain elements which are generalizable across settings and other elements that are particular to given settings (Bloor 1997).' In the context of this research study, it is necessary to note that while the women belong to a marginalized community; their experiences cannot be generalized with other communities.

Another limitation that is cited of qualitative studies is its relatively small sample sizes which again prevents from generalization of findings.

Despite these limitations of qualitative methods, it was decided to collect data using in-depth interviews and field observations as this was deemed as the most suitable means to answer the research assumption and objectives.

2.6 Field Work: The Data Collection Process

The data collection was carried out over a period of 2 months (February to March 2012) in Thiruvananthapuram, India. The data collection process was initiated once approval for the research was granted by the NUS Institutional Review Board.

A total 40 fish vending women from the 4 fishing villages were interviewed over the 2 months of February and March 2012 in the coastal city of Thiruvananthapuram. The researcher had assistance from two women who are part of the women's wing of the Fish Workers Forum – The Theeradasa Mahilya Vedhi (TMV). The researcher was introduced to the TMV by a previously known local contact.

To satisfy the requirements of the research, all the fish vending women were mobile phone users between the ages of 35 to 60. The contacts from TMV accompanied the researcher to the field, and helped to initiate contact with the fish vending women. Most interviews were conducted in the participants' houses, while a few others were conducted in the markets where they sell fish. The locations of the interviews helped the researcher to observe and understand the situations in which the women live and work. Before the interviews, all participants were briefed about the objectives and purpose of the research and their consent was sought for being interviewed as well as for the interviews to be audio-recorded. They were assured of confidentiality and that in the event a direct reference had to be made to their interview or quotes, their names would be changed and told that no identifiable information will be provided.

2.6.1 Issues in the Field

There were a few issues and setbacks that the researcher had not anticipated while planning the field work agenda.

Foremost, while access to the field was not a hassle, not many fish vending women were available to participate in the interviews on any given day other day than on a Sunday. Therefore the researcher had to conduct more than 3 interviews a day. This was strenuous for the researcher since all interviews were done by her. Moreover, some of the fisher women who agreed to be available on a Sunday were not able to keep their appointments

when the researcher visited their homes. This was a setback to the timeline since the data collection process took longer than was planned.

Secondly, a few interviews were conducted in the markets where the women sell. The women interviewed here were at most times reluctant to talk to the researcher since they felt that it might hinder their selling process. They agreed to participate only once they were assured that should a customer approach them to buy fish, the researcher will pause and wait aside for them to finish the transaction. In a couple of cases the researcher had to pause the interview when customers approached the fish vendor. Upon resuming the interview, the women usually need to be reminded or given a brief gist of their last answer or question thus losing continuity of the interview process. In addition to this, the market setting was not very conducive for conducting an interview as at most times it was noisy and there were a lot of passers-by who were interested in what the researcher was doing and had an opinion of their own to offer. These were the general issues encountered during the data collection process.

To conclude, qualitative methodology was the chosen method of the study. Data was collected through in-depth semi-structured interviews with 40 fish vending women from 4 different fishing villages in the city of Thiruvananthapuram over a period of 2 months. The following chapter sets the background of this study before presenting the findings.

3. Kerala and her Fishing Communities: Context and Background

3.1 Kerala and the Fishing Community

Kerala, one of the southern States in India, has an extensive coastline of 190km. It should also be noted that Kerala is quite different from the other Indian States – its physical features, historical background and socio-political process are what set it apart; literacy levels are the highest in Kerala compared to the other States, it was recognised as a totally literate state in April 1991 (India. Planning Commission 2008).

The Indian Planning Commission (2008) in its Kerala Development Report states that Kerala is the leading fish producing state in India; however this share in fish production has been on the decline since the last two decades. The fisheries sector provides employment to a large group of the population from the fishing communities, and contributes to about 3 per cent of the State economy (Government 2004). According to the State Fisheries department[3] there are 222 fishing villages in the State with about 179000 people engaged in the fishing industry. In addition to this, the Fisheries department estimates that 61 per cent of the fisher community lives below the poverty line.

Fishing is classified as a traditional occupation and is categorized under the unorganized sector, and is part of the subsistence economy. However, from the late 1960s traditional fisheries experienced significant changes due government led development policies which led to the increase of mechanization of the fishing sector during the 1980s. Mechanization involved improvement of traditional fishing vessels by enabling motorization, better and efficient gear materials which also enabled the expansion in fishing grounds. As a consequence of the emphasis on the process of planned development and its thrust on mechanization and globalization, the condition of the traditional fishing community has

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[3] Retrieved from the Government of Kerala Department of Fisheries website -
http://www.fisheries.kerala.gov.in/

been deteriorating for the last 20 decades leading to further marginalization of the artisanal fisher population.

Kerala's fishing community is a heterogeneous mix of Hindus (51 per cent), Christians (23 per cent) and Muslims (21 per cent) (Nayak 2002). There is the existence of social divisions upon the basis of class and caste in each of these communities and though these communities reside in close proximity in compact geographical areas, there exists clear and defined boundaries. The Hindu and Muslim communities are primarily concentrated in the northern parts of Kerala while the Christian community is concentrated in the central and southern coastal regions of the State. These communities survive on day to day fish vending business, and at most times are dependent on moneylenders and traders to assist them in financial difficulties. Since the site of the research was Thiruvananthapuram, the fisher women studied are all from the Christian community.

The fishing community is among the weaker sections of the society with the majority settled in and around the coastal areas in the 222 marine villages of the state. The Kerala development report classifies the Marine fishing Communities in the state as 'outlier communities'. This classification of outlier communities is based on their socioeconomic status, low levels of income, educational status, health and housing conditions; this is in contrast with the rest of the State which falls under the high human development index indicators marked by high levels of literacy and life expectancy, and low levels of infant mortality (Parayil 2000).

In the recent years there have been developmental initiatives aimed at the fishing communities; however they still continue to be isolated from the main stream of development due to historical, geographical and physiological precedents. In addition to this 'even the data on fisheries relate more to the economics of production rather than to

the socioeconomic conditions of the fisher folk (Nayak 2006).' Moreover, fishing has undergone significant changes from being 'a relatively small-scale and artisanal activity to one that is now highly industrialized and modern (Samuel 2007).'

Fig 2. Poonthura Fishing Village

The fishing community faces socioeconomic problems, namely low income levels, educational status, housing conditions and health conditions. Efforts were initiated by the then State government in the early 1970s to alleviate their conditions by providing for motorization of fishing vessels, generation of employment, improvement in drinking water supply, improvement in housing conditions and promotion of loan assistance; these efforts were also aided by large scale migration to the Gulf countries according to the Kerala Development Report commissioned by the Indian Planning Commission (2008). Though there was an improvement in their conditions, this way did not bring them on par with the rest of the state population.

3.2 Women Fish Vendors

Thiruvananthapuram, the southernmost district of Kerala and the capital city of the State, is one of the places where large numbers of women go fish vending compared to the other places in the State. The district has a coastline of 60km, with about 42 fishing villages and it is estimated that at least about 7000 women are involved in direct fish vending (Vijayan, Gracy et al. 1996).

Women play a major role in the fishing communities. Being part of the subsistence economy, the entire household functions as an economic unit with the roles of the men and women being complimentary. Traditionally, the women were responsible for most of the post-harvest activities like fish-vending, processing and net-weaving, while the men were usually responsible for bringing in the catch. Skills of processing and marketing fish were passed on from mothers to their daughters within the community. Over the course of time women took an active role in fish vending to supplement the family income.

Fish vending is a strenuous and time consuming task which often involved travelling to far away markets or fish landing centres, and transporting the fish over long distances. It must be pointed out that 'women in fishing communities have complex networks for fish distribution, selling in markets or from house to house' and in addition to this, the women are also responsible for sustaining the household, maintaining community networks and support structures (Nayak 2005). Despite women's contributions to this subsistence economy, the division of labour is based on gender and they continue to be considered inferior to men and dependant on them (Nayak 2002).

Most women in the community choose fish vending as a full time occupation out of the acute poverty they experienced and also since they know no other occupation. The fishermen do not usually bring home their earnings and spend much of it on alcohol

consumption. The women are left to fend for themselves and their families. Some women start fish vending soon after their marriage or in their teen years and their incomes are often the only stable means of sustenance for their families; and hence they are willing to undertake any risk to procure fish; if fish is not available in Thiruvananthapuram, a few fisher women jointly pool their resources and hire small trucks and travel to the neighbouring districts or States (Vijayan, Gracy et al. 1996).

Globalization and mechanization drive, in the 1960s and 1970s, of the Fisheries industries effected women fish vendors. The entry of trawlers for fishing and bigger merchants in the markets affected women adversely. This modernization of the industry had different effects for both the community's men and women. The women, who were used to selling the catch that was brought in by the community's men, now had to travel to far away fish landing centres to buy fish for selling. Men had easier access to the technological advancements, like mechanized boats with onboard motor engines and cold (iced) storage facilities for excess or unsold catch than women and these modern technological facilities were also controlled by men. As Nayak (2005) observes, 'consequences for women have been somewhat different from those for men, and gendered relations have mediated the effects of the change as well as being changed by them.'

Mechanization meant that trawl boats could go further into the sea in search of fish. In the district of Thiruvananthapuram, which is focus of this research, the effects of trawling in the late 1970s resulted in the markets being inundated with iced fish, which in turn caused a lowering of the prices of fresh fish which the fisher women used to sell. In addition to this, women were at the fringes of development policies and agendas; most of their contributions and concerns neglected because they were not part of the official fisheries management.

Moreover, the women in the fisheries community were not well organized and therefore less effective compared to men as an outside political force. The fisher folk were organized under an organization called the Kerala Swathanthra Matsya Thozhilali (KSMT), but it was only around the early 1980s the women formed a group of their own called the Theeradesa Mahila Vedi (TMV). It is this women's group that is responsible for rallying for the rights of the fisherwomen.

Nayak (2002) states 'the first organized protest took place in 1978-79, when women demanded the right to use the transport facilities to reach the distribution centres on time.' In the late 1980s there was a struggle led by women demanding basic rights like improved market (here market would mean the place where they sell the fish) conditions, better transport facilities, issues of harassment, and more government support initiatives. The TMV demanded that the government recognize the needs of these marginalized women. The government addressed a few of these and introduced transport buses specially for women and initiated few welfare policies. However, being a marginalized community their situation has not changed much over the years.

The TMV has been at the forefront fighting for the basic rights of these disempowered women. Over the years, many fisher women have participated in the agitations that were organized and their demands have not changed. Fisherwomen in Thiruvananthapuram identified some of the problems they constantly face as shortage of fish, rising prices, lack of capital, high rates of interest charged by the moneylenders and the entry of bigger merchants with ready capital and own vehicles; others also state the necessity of spaces to sell their fish and the issues of harassment they face in the market spaces from male merchants and various other miscreants. In this process, the small vendors are ousted from the bigger markets and harbours. They are usually at a disadvantage and need to fight for

their survival. These are among the many problems faced by the fish vending women from the fishing community in Thiruvananthapuram.

3.3 Data Collection Process

The sample size consisted of 40 fish vending women mobile phone users. In-depth interviews, which lasted between 30 to 40 minutes depending on the convenience of the respondents, were conducted either at their homes or in the market places where they sell. All interview participants were fish vending women from artisanal fishing families belonging to the 4 fishing villages chosen for this research. The 4 villages, Marianaad, Veli, Poonthura and Valiyathura, were chosen since they are the bigger fishing villages in and around Thiruvananthapuram city and it is from these villages that majority of women engage in fish vending activities. The fishing villages are located along the sea shore.

Snowball sampling technique was used to recruit participants for the interview. All but one fish vending woman was married and they were between the ages of 40 to 60 years. The respondents were given a token of appreciation for their participation in the interview.
The interview participants were briefed about the purpose of the interview and the research. Their verbal consent was sought in lieu of the requirements stated by the NUS Institutional Review Board. Their consent was also sought for the interviews to be audio recorded; all interviews were conducted in the local language, Malayalam. The researcher is proficient in both Malayalam and English. The interviews were audio recorded with the consent of the respondents and later transcribed into English by the researcher herself. Hence, the transcripts of the interview formed the body of qualitative data for analysis.

3.3.1 Women Fish Vendors and their Daily Lives

For the purpose of this research, a total of 40 women from 4 fishing villages, namely Poonthura, Valiyathura, Veli and Marianaad in the district of Thiruvananthapuram were interviewed.

Fisher women either vend the fish in the retail markets, strategic roadside markets or sell on from house to house. Most wholesale markets function as retail markets as well.

Fish vending is a strenuous task and most female fish vendors have different vending patterns. As mentioned before, Thiruvananthapuram which is the focus of this study is one of the places in the State where a large number of women go fish vending. This can be because artisanal fishing is still prevalent even though motorization and decentralized fish landing centres are common (Vijayan, Gracy et al. 1996).

Earlier the women used to sell the fish caught by the community's men but the mechanization drive has depleted the natural resource that was the livelihood means of this artisanal group and competition has become stronger. In addition to this, the women have to compete with bigger merchants as well since they have more purchasing potential.

The women buy fish for vending either from the beach landing centres in the fishing villages where they stay. When fish is not available most either buy from the wholesale markets in the city or pool resources, hire small trucks and travel to landing centres in nearby districts or towns. They have agents or sometimes even other fisher women in the landing centres and wholesale markets from whom they regularly buy fish. The decision of which market or landing centre to buy fish from is based on the season and the contacts. It was observed that some have been going to a particular market and do not wish to change their routines.

The fisher women also have different vending patterns. They either sell in the retail markets or at roadside markets. There are others who prefer to sell from house to house; they tend to be fisher women who generally buy the cheaper (trash) fish and that too in smaller quantities. The market at Edapanzhanji is an example of a wholesale market. In the early mornings, bigger merchants and fisher women gather to buy fish in the auctions. The fisher women I spoke to who vend at this market, go as early as 3.30am to be present at the market in time for the auction. These fisher women have regular customers who are small scale hoteliers, wayside eateries or caterers that depend on them for their supply of fish. They also sell to other fisher women who vend at the retail markets or from house to house.

Figure.3 Fish Vending at the Edapanzhanji Wholesale Market

Most women now selling in the markets started out as small time fish vendors who previously bought fish for smaller amounts until they gained enough vending experience to venture into the bigger markets.

The market timings differ depending on the place and there are morning and evening markets. The ones who sell in the markets generally on an average buy fish worth

INR10000 which is around US$200 on a daily basis. All the women interviewed except one sold in the retail markets. The markets are owned and managed by local government bodies such as the Corporations in the city areas and the Panchayats in the rural areas. Taxes are collected either by the governing bodies themselves or by individuals to whom the market maintenance responsibilities are auctioned off to by the governing bodies. Sometimes the women are exploited by the representatives who either force or demand them to pay more than the required tax amount. Some markets that are directly governed by these local bodies do not collect taxes and women have better experiences as informed by some of the women interviewed for the study. Many also say that their situation has greatly improved with them being allotted specific places to sit and vend as is evidenced in the Palayam Market. They state that they have better facilities like toilets which they did not have when they started selling in the late or early 1980s.

However, women who choose to vend at the roadside markets face many difficulties. They are often hassled by local governing authorities and thugs alike. This was witnessed in the case of women vending in the Kaniyapuram and Kesavadasapuram markets. The women who vend at the evening roadside market at Kaniyapuram are from the nearby Marianaad fishing village and other smaller villages close by.

There is the Panchayat run market in Kaniyapuram where the women who go to morning market sell in. However, women claim that they do not have adequate facilities like proper lighting and expressed safety concerns for selling in the same market in the evenings. Most women expressed that they faced harassment at the hands of the local men and thugs; they also mention that the market is not strategically located which makes it difficult for customers to access it in the late evenings.

Evening markets usually start at about 5pm and go on till late in the night. This particular market is again strategically located on the National Highway[4] and business is brisk from about 7pm to about 9pm. They face opposition from the local governing bodies, nearby shopkeepers and residents. They have been forced to stop vending there by the local authorities who used the content of the Kerala High Court order which prevents any kind of vending on the National Highway. The authorities claim that the fishing vending on the roadside has made the place dirty and unhygienic. At the time of the fieldwork, the women interviewed were participating in peaceful protests in front of the local Panchayat office in Kaniyapuram. However, the local authorities have vested interests and stand firm in their decision to not allow any fish vending activities alongside the National Highway.

The situation is not wholly different in Kesavadasapuram and both the morning and evening markets are situated on the roadside along a busy junction. It is again strategically placed, and women vend here from about 8am to late in the night. Here too they face eviction at the hands of the City Corporation officials, police and harassment by thugs who threaten them by throwing their fish vending baskets. However, the women are resilient and carry on with vending there. Some women I spoke to recounted how the Corporation representatives would come and confiscate their boxes of fish and of thugs would demand money from them to be allowed to sell fish in that location. The situation has not changed much and it is uncertain how long they can continue selling there before they are forced to move.

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[4] National Highways connect the different Indian States; this particular highway is called NH 47.

Fig 4. Women vending fish at a market

Most women selling in the evening markets express concern for their safety since they are often at the mercy of the hands of thugs. And even though these markets are situated in well travelled areas, it continues to be a harrowing experience. Some of the roadsides lack proper street lights and are dimly lit. Since these roadsides lack any kind of shelter, the women are also exposed to the natural elements. For example, this is the case of the 20 to 30 fisher women selling in Manacaud and while there is an allotted market space, the evening market is strategically situated right in the middle of a busy junction and offers the advantage of a larger crowd at the market.

The women expressed the same difficulties as women from the other markets and similar reasons as to why they prefer to sell in the roadside markets. All these roadside markets are poorly lit, the fisher women carry with them small kerosene lamps which they light up once it becomes dark. When it rains, they sit under small umbrellas and vend fish. This situation is similar to all the fisher women who vend in the roadside markets.

Most times, the women are also not very vociferous of the sexual harassment they face at the hands of the men in the markets since they fear being typecast as immoral or looked down upon by their equals and family. The issue of harassment by thugs at market places

is a regular complaint, they complain that men verbally insult, make indecent propositions and behave improperly towards them. This is another reason why women choose to vend at the roadside markets which they feel is relatively safer when compared to the markets during the night. Though they have started to speak out against such discrimination, it is not easy for them to open up and come forward regarding these issues. They are cautious of talking about their experiences, since they feel they will be blamed for what has happened to them.

During the 1980s, the women faced difficulties in accessing public transport buses and were at most times not allowed on them. They had to walk long distances with the baskets of fish as head loads. But the situation changed after women organized protests and the government introduced buses especially for the fisher women. However, fisher women these days have more choice in terms of transport. While some women depend on these buses, others prefer to travel in the small private hire vehicles.

Another problem that most of the fisher women experience is their lack of capital. They have to depend on money lenders who charge exorbitant rates of interest. The women are often at the mercy of these money lenders for lack of other alternatives.

Besides vending fish, the women have other responsibilities as well. They are responsible for household chores; some receive help from their daughters while others manage by themselves. Their days are usually long and do not end until late in the night. Most women choose fish vending due to the poverty they experience. All the fisher women interviewed for this study expressed that they began fish vending as a means to take care of their families; for most whose husbands did work most of the money that they earned was spent on alcohol with them contributing almost nothing to the running of the household. Some

women also experienced violence at the hands of their husbands. Most of them depend on the daily income they make from vending fish to buy supplies for running the house.

All the women interviewed belonged to the Christian – Latin Catholic – community in Thiruvananthapuram. Women in this community usually inherit property rights and enjoy some level of economic decision-making power (Vijayan, Gracy et al. 1996). Most have modest houses of their own; others live in rented one bedroom houses in the fishing villages. The conditions the women live and work in are difficult. Their marginalization continues due to their inability to capitalize on the limited resources at their disposal.

The review of their lives and background provides a backdrop to the next chapter were the findings are presented. The women live in different states of economic and social conditions and aimed at presenting the daily struggles that the women encounter.

4. Women Fish Vendors and Mobile Phones: An Exploration of Uses and Benefits

The findings represented in this chapter are based on interviews conducted with fish vending women mobile phone users with the aid of a semi-structured interview questionnaire. The sample size was 40 fish vending women from 4 different fishing villages in Thiruvananthapuram.

Data analysis was a continuous process which began while interviewing the participants. The interviews were audio recorded and later transcribed by the researcher following which a thorough read through of the data was done; different accounts of the fish vendors were then compared for common descriptions, experiences and themes. These accounts were then examined with a focus on mobile phones – uses and benefits and its implications.

This chapter is divided into two sections; the first section provides the background of the respondents and their reasons for choosing fish vending as an occupation, the second section details the women's experiences in using the mobile phone. The findings detailed in this chapter are later discussed in the chapter 6 – Discussions and Conclusions.

4.1 Women Fish Vendors: Description of their Backgrounds

Foremost in the interview process, all the participants were asked to answer a few questions pertaining to their age, marital status, educational background and income.

All the 40 interview participants were mobile phone using fish vending women who belonged to traditional fishing families. All the women interviewed were above the age of 40 and below 70. Except one, all 39 respondents were married. The women got married in their early 20s while the older respondents were given away in marriage during their late

teenage years. It was noticed that the older generation married at a younger age than the present ones.

All fisher women interviewed have received some form of formal school education. They have varying levels of literacy, most have basic competency in the local language while a few are illiterate. They cited lack of interest in studies, poverty and the need to stay at home to perform or assist in household chores as reasons for quitting school. While the women have sought to educate their children most have either dropped out of school, others have pursued vocational courses.

The fisher women's contribution is the primary and stable source of income in these families. Most women have been vending fish for a minimum of 25 years or more. On being asked whether their husbands work and support the families, the women were not very forthcoming in their responses, while a few of them admitted that their husbands did not bring home their earnings and spend much of it on alcohol consumption (which is a major problem in the fishing communities). Thus the answer to the question, why did you choose to become a fish vendor yielded the same answer which was that after getting married and having children the women had no means to take care of the children.

4.2 Women and Fish Vending as an Occupation

Firstly, fish vending is the natural choice for the women as a profession since they belong to artisanal fishing families and have been to markets with their mothers when they were young. Secondly, all the women interviewed confirmed that theirs was the only stable income in the family. Their husbands go to work on the boats that go out to sea and most do not earn enough to take care of all the expenses of the families. The men also spend their meagre earnings on alcohol. As one of my respondents, Sheila, 50 yrs old explained,

> *"My husband would not go to work and when he did he wouldn't give me anything from his earnings. He was always consuming alcohol and not bothered about our children. It became very difficult to manage the household expenses and to take care of my children – buy food, clothes and educate them. Besides, I did not know any other profession and so I started fish vending as a means to take care of my family and to keep us out of poverty and starvation."*

Sheila is from an artisanal fishing family; she took up fish vending as a means to look after her children and manage the household. Moreover, her husband did not provide any financial support to take care of the needs of the family. The other fisher women interviewed also have similar experiences which made them take up fish vending as an occupation. A few fish vendors said that their husbands did contribute a share to the financial responsibilities of the household however their incomes were not sufficient to support all the expenses incurred.

Lastly, they lack the basic education necessary to be eligible to qualify for other forms of employment. However of one the respondents, Beena (36 years old) mentions,

> *"I have two children who are being educated by the Priests in the boarding school nearby. I only have to pay minimal fees, but I find it difficult to afford even that. My husband is sickly and cannot take up any form of hard labour. Since fish vending requires a lot of time away from home, I thought it might be better to work as a maid. An acquaintance who works as a maid, found a similar employment for me with a household. I was paid Rs. 3000 per month. But the work was difficult and my employer did not treat me well. So I left that work and took up fish vending."*

Beena like the others belongs to a poor artisanal fishing family, stays with her husband in a rented one-room house which they share with her brother-in-law and family. For now, her children come over only on the weekends. She took up fishing vending after her marriage but stopped shortly after to take care of her children. She later worked as a housemaid for a couple of months before resorting to fish vending. She left her job as a housemaid since she felt she could earn more vending fish and her decision was aided by the fact that her employer's ill-treatment of her. She now goes to the evening market to sell fish which she buys from the local fish landing centre near her house.

The women also find fish vending, when compared to other occupations, lets them earn money to run the daily expenses of the household more easily on a day to day basis.

Lucy is 46 years old; she recalls that she began fish vending since she had no other means and skills to take care of her family when her husband abandoned them,

> *"My husband deserted us and I had to take care of my children. I did not start on my own immediately. I started going with my mother, learned how to buy and sell fish and then started going on my own."*

Lizzy is 54 yrs old and is a large scale fish vendor. She started vending fish in the market when she was 14 years old but stopped after she got married since her husband did not like her working as a fish vendor. However, after starting a family she began vending fish again due to financial difficulties at home though her husband was not very happy with her decision. She says,

> *"He did not like it because it (fish vending) did not go well with his family's reputation. His family was slightly educated; one of his relatives was a teacher, another was a Priest. My selling fish belittled their status. But I could not simply sit at home. I could choose work as a seamstress but I*

wouldn't be able to earn enough. With fish vending, I can earn more. I sell to

big customers like hotels and caterers."

She is the only one who expressed that her husband was not happy with her decision; for all the other women fish vendors it was a natural choice or decision since they belonged to artisanal fishing families and did not have the skills required for most other forms of employment. All of them began fish vending as a means of sustenance to take care of themselves and their children.

All the women have been in this profession of fish vending for a minimum of 20 years, only a few have been vending for less than 10 years. As fish vendors, they face numerous hardships. In many of the fish landing centres and wholesale markets, the women face a lot of competition from wholesale buyers with ready cash. They also have to deal with middlemen who purchase the entire catch at the landing centres and then resell at higher prices. Since most women tend to buy fish on credit, they are at a disadvantage and have to resort to moneylenders who charge them exorbitant interest rates.

During the lean season they have to travel long distances to procure fish, leaving their homes in the early hours of the morning and travelling long distances to faraway markets or landing centres. For women who sell in the roadside markets, they also face the issue of eviction by the local authorities and in some of the markets, they also have to put up with harassment by thugs who demand money from them to allow them to vend at a particular place. Sophie (48 years old) who vends at a roadside market points out,

"We sell at the road side market especially in the evenings because the

people leaving work will be able to buy from us, and it is easier for them

because the markets are usually away from the busy bus-stops and

junctions. The markets are also not very safe for us to sit and vend once it

becomes dark. The facilities are not good, there is no proper light and even

here on the roadsides we have our own kerosene lamps. There have been times when thugs demanded money from us and threatened to throw our baskets of fish and everything away if we refused to pay them. The people from the government corporation offices also come and confiscate our vessels because we are supposed to sell at the roadside. But we have no option, we cannot sell in the markets once its evening and we need to make a living and so we come back again."

Different markets are in varied states of maintenance; while the women affirm that their situation has changed from the last 10 years, the markets still need improvement in terms of facilities and maintenance. The conditions in most markets are unclean and unhygienic; there is also the lack of proper lighting (which makes it unsafe for them to vend there in the evenings), sanitation and other basic facilities that women require. Many women suffer from health related problems which are a result of the continuous difficulties they have been facing over the years.

As mentioned earlier on, the fisher women are the sole and stable income earners in their families and shoulder the financial responsibilities with little or no help from their husbands. The men, it is understood, take minimal or no part in shouldering the family responsibilities. The women have a fair share in making decisions regarding the family; this can be due them being the income earners. However, they do consult their husbands or close family members before making a decision on any matter.

Many women also felt that due to the nature of the work they are involved in there is a certain level of social stigma they face. They are looked down upon and many experience marginalization in many ways, Mary who went to her son's college during the admission time says,

"I was waiting outside the office to meet the Principal. While there, I met one

of my customers. He was surprised and asked what I was doing there. Upon

telling him that I was waiting to meet the principal since my son had been

accepted to this college, I could see his surprise. They are only used to seeing

me in the market, and they do not expect us to be in these places since they

feel that we do not belong here."

Another fisher woman, Daisy points out, *"They always expect us to be in the markets and*

believe we are uncouth. They think that is where we belong, in the traditional costumes

that we wear, they do not even think we can dress nicely in a sari."

They also experience verbal slights and taunts from men at the markets, most say they

remain silent to these slights and try to move past them. Others ignore them and choose not

to retaliate to these verbal onslaughts.

Though women fish vendors are responsible for generating income for their families

through fishing vending, their status in fishing community remains low. While their

empowerment has been at a minimum, all the women have chosen to use mobile phones

perceiving the benefits associated with its use. The following section relates the findings

with reference to mobile phone adoption, use and benefits.

4.3 ICTs: Mobile Phone Adoption and Use

All the participants of the study were chosen on the basis of them satisfying the condition

that they should own mobile phones. All the women interviewed have been using a mobile

phone for more than a month and less than 7 years. The only exception was a large scale

fisherwoman, Susan (58 years old) who has been using the phone for more than this

period. She in fact says she was one of the first fisher women to own and use a mobile

phone. Many people including other fisher women in the community had ridiculed her for

using the phone. She says the very people who made fun of her are now using mobiles, *"there were many people, both men and women, who made fun of me for talking on the phone. They said a lot of mean things about us. But today, those very people are using phones."*

Some women bought mobile phones after realising that it has practical uses and benefits to adoption. There were some who were given the phones by their children since they felt that their mothers spend a lot of time away from their homes. Many women, in their late 50s, suffer from health related issues and this was among the other reasons why their families felt that the women needed to have mobile phones. Thus, in the event of an emergency they could contact their families.

A few also bought it after seeing other women using the mobile phone. Celine, 56 yrs old says, *"Everyone I knew had a mobile phone with them and I felt I needed one too."*

There were a couple of answers to the question concerning their uses of their mobile phones. Many women stated that they started using the phone for personal reasons, to keep in touch with their children, family members and friends. As Mary, 52 yrs old states,

> *"My children are abroad, one of my sons' is in South Africa and the other one is in Malaysia. I thought my children could keep in touch with me this way easily, especially if there was an emergency."*

The phone is the means to keep in touch with family members as they spend considerable amount of time away from their homes either travelling to the far away landing centres or wholesale markets to buy or to sell fish. As Lucy points out, *"I thought if there is some need or emergency my children can keep in touch with me."* Many once they leave their homes for the day come back only late in the night. Thus, mobile phones help them stay connected wherever they are. This is among the primary motives to adoption and use.

Many fisherwomen, especially the large scale fish vendors were motivated by the economic utility and instrumentality of the phone. They believed that once they started using the mobile phone, it would help them become efficient in carrying out their business transactions, co-ordinating and managing their different roles with ease. With the use of the phone they were able to check on the availability and price of the fish in different markets and landing centres before deciding where to buy fish from for selling.

As Lizzy, 54 yrs old says,

> *"I bought it with the intention that I can get in touch with the hoteliers who buy fish from me on a regular basis. I thought if I had a phone then they can get in touch with me directly and enquire what fish is available. They can also call me beforehand and let me know what fish they want so that I can plan what fish to buy from the auction (sale) at the wholesale market. Sometimes, they also call to enquire about the type of fish available. If I do not receive a call from them in time, then I call them to find out what they need."*

Susan (58 years old), a large scale fish vendor, also bought the mobile phone motivated by its economic instrumentality,

> *"I bought the phone since I felt it would be useful for me to find out the price of fish in the different markets and also the availability of fish. I do not always have to call up the landing centres. The agents there call and let me know the information I require, depending on what they tell me I decide which landing centre to go to. I also use the phone to get in touch with my customers. I sell to hotels and many rich customers regularly. The phone is beneficial for me since I can keep in touch with these people easily."*

Soon she also realized that it was helpful in keeping in touch with her family. She leaves home around 2.30am to travel to distant fish landing centres to buy fish, leaving her young

daughter and grandchild at home. The phone was her means of feeling at ease, since she felt that she was easily contactable in case of an emergency at home.

For Lizzy and Susan, both large scale fish vendors, the mobile phone aided in co-ordinating their vending routines – of travelling to the fish landing centres to finding out the prices and the requirements of their customers. They were now able to contact agents or middlemen at the landing centres to find out the price and availability of the catch beforehand and also ensure that the demands of their customers were met.

Other fisherwomen also echoed similar reasons for the buying the mobile phone. Owning a mobile phone helped to reduce the time they spent travelling and save on travel related expenses. Moreover, they were able to make informed decisions on their choice of markets to buy fish from, and thus able to capitalise on the resources at hand. However, all the fisher women have preferred markets where they buy fish from daily. Only if fish was not available in these markets, did the women use their mobile phones to find out about availability elsewhere.

For many women, when fish is not available in their regular markets or landing centres, they call up agents to find out about the availability of fish in other landing centres or wholesale markets. They call agents in these markets or other fisher women that they know to enquire about the availability and price of fish before they decide to set off to these markets or landing centres. As Mary pointed out one of the many benefits of owing a mobile phone,

> *"I use it (the mobile phone) to call and find out the price of fish in the*
>
> *markets so that I can decide where to buy from, though I usually prefer to buy*
>
> *from my local market. But when fish is not available I have no choice but to*

buy from other places, so I need to call agents from the other markets and

find out about the availability and price of fish."

It was also noticed that the women have a collective knowledge sharing process and keep each other informed and the mobile phone aids in this collective knowledge sharing process. In most cases, they rely on each other to pass on information on availability, prices and market conditions on a given day. The women usually go to landing centres or markets in groups; these groups may consist of anywhere between 2 to 6 fisherwomen. If one of them found out that there is no fish available in a particular market of their choice, this information was either conveyed in person or using a mobile phone. The women would then travel to other landing centres to procure fish. At times, not all the women go to the distant markets, two of them might go and buy fish for all the others. They will usually decide beforehand what fish they would want to buy and the budget. In these situations, women usually hire small trucks and later share the cost. Mobile phones, in these instances have helped to convey information about fish availability and prices in the event that the market does not have the fish they want to buy.

Once it was decided that they need a mobile phone, many chose to buy inexpensive phones. They cited a few reasons for using inexpensive handsets. Firstly, they feared that they might lose their phones or that it could be stolen or lost. There have been instances when they have lost their phones; some mentioned that their phones were stolen. Hence, they feel that if the investment on the handset is kept to a minimum then they suffer only minimal monetary loss. Secondly, the market surroundings are damp, and there is the possibility of their phones becoming wet. This is a concern for many of them who have a difficult time keeping it from getting damp when they are out at the market. Thus, the women keep their mobile phones in their purses and keep it close to them at all times. Moreover, the women feel that advanced phones have features like cameras which they do

not require and hence see no necessity in spending on them. They also prefer to use the simpler handsets as those are easier to use.

For many of the fisherwomen interviewed, the phone that they are currently using is not their first phone. Most have lost their phones at least once. The fact that they still buy another mobile phone shows that they believe mobile phones are useful and have benefits. For Lizzy, it is her fourth phone in 3 years. Another fisherwoman, Lucy has been using the phone for the last 4 years and during that time she has lost it many times, only to replace it later. The fact that women buy phones to replace the ones they lost show that they see benefits to ownership.

The women were taught how to use the mobile phones by their children or grandchildren. It was their children who saved the phone numbers in to the phone's contacts. As Sheila says,

> *"My grandson came along with me to buy the phone. He is the one who taught me how to use the phone. He explained how to do everything and saved all the numbers in the phone."*

In many instances, the women pointed out that when phone numbers were saved on to the mobile phone, their children would use different symbols like "the heart" or "the happy smiley face" with the names. These symbols represented whose number it was. For example, numbers of family members were usually saved with a heart sign so that the women could understand that it was for their family.

Since the women did not know how to save phone numbers into the contact function in their mobile phones all of them have separate phonebooks in which they write down the contact numbers of the people that they need to keep in touch with; the phonebook is always kept along with the phone and taken wherever they go. They write down the names

along with the numbers in the phonebook. These numbers are later saved on to the phone by their children or grandchildren. Many of the women remember the last 4 or 5 digits of the phone numbers and that is another way that they recognize the person whom they need to call.

Many of the women do not know their own mobile phone number by heart. They usually have it saved in their phones under contacts and written in the first page of their phonebooks. Thus, when someone requires their number, they either read the number out to them from their phone books or hand over their phones to the person and ask them to "miss call" themselves using the phone.

The women's contacts are limited to their family members and other fisher women, the agents from whom they buy fish in the landing centres or markets, the vehicle drivers whose help they need to travel daily and some regular customers. They use their phones to keep in touch with family members while away from home. The fisher women's calling habits form a pattern, they have regular people with whom they keep in touch with via the phone; this includes family members, the agents in the landing centres and the drivers whose services they rely on. However, the most predominant use is to stay in touch with family members which are the primary reasons for adoption. Calls are made to family members to let them know where they are, when they will be coming home, to coordinate the household chores and such. Calls to agents at landing centres are limited to the large scale fish vendors. These women use their mobile phones to coordinate their activities. A large scale fish vendor from the Pangode market pointed out how she used the phone to coordinate requests from her buyers. She regularly supplies fish to small hoteliers; she has a total of 25 small hoteliers and caterers who buy fish from her daily. The mobile phone has come in handy for her as her buyers can inform her of the type and quantity of fish they require beforehand. It helps her to coordinate with the sellers or the agents on the

beach or landing centres and to inform them of the type and quantity of fish she requires beforehand. As Mariam points out,

> *"Sometimes, they (the customer) want a different fish or more than what they told me beforehand. Then they call and let me know. So I will then find out from the agents whether they have the type of fish the customer wanted. If they do not, then I call up other agents and try to buy the fish."*

Calls to regular customers are made only when they have been asked to keep aside a particular type of fish. And so when the fish is available the women call up the customer and inform them of its availability. The women do not give their phone numbers unless asked for by the customer themselves. They feel that offering their numbers might be considered inappropriate, while there were others do did not wish to maintain such relationships with their customers even though it meant increased sales and income. They seem fearful of giving away their numbers. They do not give away their phone numbers easily unless they find reason to do so.

'Missed calls' are another form of communication between the women, their family members and the drivers who help them commute. The missed calls take on different meanings depending on the situation. It is generally pre-decided what the call would mean in the particular situation. For instance, women spoke of how the drivers of the vehicles they travel in would give them a missed call in the morning when they arrive to pick them from their homes. The women know that their vehicle has arrived when they see the missed call from the driver. Another instance of missed calls is when after a day of selling at the market, the women tend to miss call their family members to let them know that they are on their way back home. Hence in different situation, the "missed call" takes on different meanings. Missed calls are widely used between people as a means of prepaid phone credits.

While many of the fisher women use mobile phones, they are wary of their young and unmarried daughters or women using the phone. There have been instances of young girls being lured by strangers (men) in to relationships that families do not approve of. Thus, in this light extensive mobile phone use by young women is not encouraged as it is seen as a medium that is used by men to solicit them by making false promises. While many of their young daughters do have mobile phones or use the ones that belong to the other members in the family, the women are watchful of its use by them.

Calls from unknown people are usually disregarded unless they keep recurring. In this case, most women either have the men in the family answer the calls and warn the strangers off or do it themselves. They say that once these "unknown callers" are not encouraged they eventually give up wasting their time trying to talk to them. While most not very worried about such calls, they were more worried about their daughters receiving such calls from strangers due to the potential that they may be lured into relationships under the false pretext of being in love and thus bring shame to their parents.

Their confidence levels vary in using the phones; they lack the technological competency; none of them are efficient users and do not know how to use the phone for other than making calls. When they need to make calls, most refer to their phone books, dial the number and then *"press the green button to make the call and the red button to end the call (as expressed by the numerous interviewees)."* They do not know how to use their phones beyond this. SMS feature is not at all used since the women do not know English.

Owning the basic handsets limits the features that are available on their phones. The features are limited to basic functions like SMS, games and a few phones had the radio function as well. In households where there are children, the children use the games feature

in the phones. A few when they lost their more expensive phones given to them by their children chose to buy and use more basic and cheaper phones.

Of all the women, only one said she used the camera feature. She said she used it to take photos of grandchildren. She knew how to use the features by herself. It must be noted that this particular fisherwomen is not literate. She has not received any formal education. It is only through her experience as a fisherwoman that she has learned what she knows, *"I did not know how to use the camera, but then I started trying what the different keys (and buttons) can do and this is how I learnt to use it. I take photos of my grandchildren with it."* While the ability to use a certain technology is not limited due to lack of education, this particular fisherwoman seemed to be the only one who was confident of using the advanced features available in a mobile phone. Most of the women are not efficient at using the phone and lacked confidence. They usually seek the assistance of people when they need to make a call. They sought help in dialling the phone numbers or finding names of people in their contacts to make calls.

Most of the fisher women live in joint families. In such families, ownership of properties is shared and the same is the case with the mobile phone. There are no restrictions on family members for using the phone. Though all members of the family own mobile phones, sharing is common. When a family member runs out of prepaid credit, it is common to use another member's phone. However, the fisherwomen's phone was used as a shared phone when she is at home because they usually have enough credit available to make calls. They usually buy prepaid phone credits for between INR50 – INR100 (approx between 0.94 to 1.88 USD) on a weekly basis. It is found that they buy these prepaid credits on an average of 4 times a month. Many said they cannot afford to let their prepaid credits run low since the phone is an essential part of their life.

Sharing of mobile phones is not just among family members. The women go to the markets in groups of either 2 or 4. Not all women in this group may own mobile phones. It is a usual habit to share the phone owned by a member of the group. They receive calls from family members and at times make emergency calls. They pool in their resources and buy prepaid phone credits. Thus since the cost of using the airtime is shared, there are no disputes.

4.3.1 Barriers to Adoption and Use

The constraints women experienced in their use of and access to the mobile phone was explored. There is no barrier to their adoption or use and all women agree that it useful to have a mobile phone and take it with them every day when they go fish vending. However, there were 4 women who do not take the phone with them though they use it in their homes. For one of the fisher woman, her husband doubts her and feels that she will talk to strange men on the phone, thus to avoid any marital disputes, she does not take the phone with her. Nancy says,

> *"I do not take the phone with me since my husband has a lot of suspicions when I take the phone with me. He feels that I am talking to other men. Even if I get a call from a wrong number he becomes very suspicious. So avoid disputes with my husband, I leave it at home."*

Dahlia, a 57 year old fisher woman says,

> *"I bought it (the mobile phone) with the intention of calling up agents and my regular customers. And some of my customers gave me their numbers as well. My grandson taught me how to use the phone, but for some reason I could not understand how to use it however much I tried. I took it with me for a few days and then felt that I do not need it. I am not one of those fisherwomen*

who sell fish on a large scale. So I leave it at home and use it there though my

family is worried that I do not take it with me."

The other two fisher women felt it was not necessary to take the phones with them since they are not travelling in the night and return home in the evenings; in short their vending pattern falls in to a routine, and they felt that not being in the large scale business of fish vending they can leave their phones at home. They also feel that they can just borrow their friends phones if need be.

The women take their phones with them daily when they go fish vending, the only place they do not take the phone is when they are going to church on Sundays. Attending the Sunday service at church is a part of their Sunday routine; many expressed that it is inappropriate to take the mobile phone to church. Moreover, they do not perceive any circumstance arising when they will need it.

There are no noted instances of the men withholding women from using the phone; most men own mobile phones as well. They do not experience any discrimination for owning mobile phones. Many pointed out that their regular customers are appreciative of the fact that they own mobile phones as this enables them to find out prior to coming to the market if fish is available or to let them know their requirements. The women's use of the mobile phone is limited due their low literacy levels. However, many prefer to use the calling feature since it enables them to communicate faster and get the required information quickly.

Of all the 40 women interviewed, only 2 women's households had a computer. These 2 women did not know how to use the computer. One of them explained that the children use the computer to make video-calls talk to their relatives who are working abroad. The other fisher woman explained that her son is the one who bought the computer and she does not

know how to use it. The mobile phone is the only form of ICT device in all the other households.

4.3.2 Benefits of Adoption

4.3.2.1 Safety and Security

Another advantage to mobile phones is in the sense of security and safety mobile phone use affords the women. Many fisherwomen spend a considerable amount of time away from their homes and families, often travelling long distances in the night to buy fish or returning from the markets after selling. For many interviewed, owning a mobile phone has fostered a sense of security and safety in that they can contact someone in case of an emergency.

For instance, Sheila recounts the reason she decided on getting a mobile phone,

> *"I go to the market around 2.30pm and come back home only by 10 or 11pm. It is usually difficult to go back in the night. Another fisherwoman and I, we come take an auto-rickshaw together in the night. One day after selling fish in the night, we were waiting to come back. It was raining heavily and there were auto-rickshaws to go back home. We kept waiting and it became very late. It was dark as well and we could not see well either. Finally, an auto-rickshaw came and we got on that to return home. We had close to INR10000/- (188USD) with us and we were also wearing some jewellery. We were frightened that the driver of the vehicle would hurt us and steal our cash and gold. The driver apparently knew us and came from our village. After this incident, I decided to get the mobile phone. Now we have a regular auto-rickshaw to travel in the night. When we are about to finish selling, I call him and comes to take us home from the market."*

Another fisher woman also recounted how after she bought the mobile phone she feels safer in the night. She too returns home late in the night, about 2am after selling fish at a roadside market in the city. Since the vehicle she returns in cannot drop her at her drop step, she has to alight at the junction and then walk home. Now she gives a "missed call" to her husband when she about to reach, and either he or her son waits for her there to walk her back home.

For the fisher women who vend at the roadside markets in the evening and late into the night, the use of the mobile phone has allowed them to get in touch with the Police when they are harassed by thugs who demand money from them. This many feel is one of the benefits to having a mobile phone when vending in the night.

4.3.2.2 Coordination and Micro-management

The women spend considerable amount of time away from home, and using the mobile phone allows them to coordinate and micro-manage the running of the household and their families effectively. Many feel they have the opportunity to be able to direct their children and keep tabs on what their children are doing. They are able to let their children know what needs to be done at home in their absence. They seem to rely on the mobile phones. Before using the phones, they were resigned to the fact that they had no means to communicate but with the adoption of phones, they no longer feel that they need to be physically present to manage the household.

For instance one fisher women recounted how she has to worry less about household chores, by using the phone she is able to find out from her children if her husband has had his dinner, it also allows her to instruct her daughter as to what to cook for lunch and dinner. Another interviewee Theresa, who has a bedridden daughter at home, finds that

being reachable in case of an emergency gives her the peace of mind to sell in the market since she knows that she's only a call away,

> *"The only reason I am able to sit here and sell is because I know my family can get in touch with me if my daughter becomes serious. If such a thing should happen, then I can coordinate with my family and my buyers (the hoteliers) and have my helper sell the fish for me. Yes, having a mobile phone has made a lot of difference. Before I had my own phone I had to rely on others and even if they lend us the phone, they may not like it all the time. "*

There is no social stigma attached to owning a mobile phone, while women who were early adopters did experience some form of resistance from others in the community who looked down upon them for choosing to use mobile phones, the situation has now changed with owning a mobile phone being accepted as a necessity. While the mobile phone has the potential to assist in women's empowerment, it is not being used to explore this potential.

4.4 Conclusion

To summarize, the findings illustrate that for many of the fisher women mobile phones have become a necessity. Unlike in the past when they had no means of being connected while on the move or out selling fish, owning mobile phones have ensured that they can be contacted wherever they are. Further, it offers connectivity during emergencies and helps them feel at ease and gives them a sense of security. It has brought benefits to their vending business; they are able to contact agents at landing centre, enabling them to save money, and time. They are able to keep in touch with their family while out vending at the market. For many of the women, it is also a means to stay connected with family, maintain and strengthen social networks with friends and others. While for many this is their first ICT device, they seem to use the mobile phone with a sense of caution. The findings

further reveal that mobile phone adoption has economic and social impacts on the lives of fish vendors which are discussed in the next chapter.

5. Discussion and Conclusion

The adoption of mobile phones by women in marginalized communities is not without consequences. The objective of this thesis was to explore the reasons for adoption, use and benefits, and the resulting economic and social impacts of mobile phone use by the fish vending women from the marginalized fishing community in Thiruvananthapuram, India. It further proposed to understand the extent of empowerment the women experienced from the result of mobile phone adoption. The answers to this effect were sought through in-depth interviews with 40 fish vending women from 4 fishing villages in the city of Thiruvananthapuram. This chapter begins with a brief discussion of the findings which is followed by a succinct description of the limitations and what gaps future studies may be able to fulfil.

5.1 Discussion

The findings reveal that mobile phone adoption has economic and social benefits on the lives of the fisher women. Further, the findings also show the potential for economic alleviation resulting in empowerment, though there is little social empowerment.

The findings also show the importance respondents placed on connectivity. Mobile phones have emerged as the single most adopted ICT technology due to its ability to provide users with the means to connect and access information in the most straightforward means. It is also of relevance that mobile telephony is probably the only ICT technology or device which requires the least investment, be it cost or skills in use. The phone becomes an asset through which the fish vendors are able to generate income and save costs. As Sey (2011) notes, it further enables both social and economic uses 'to occur separately and together.' Thus, for the fisher women regardless of their reasons for adoption, they are able to use it for both economic and social purposes.

5.1.1 Economic Impacts

The findings show that there are significant benefits to mobile phone adoption especially for many fisher women who are involved in large scale fish vending. With access to mobile phones, the fisher women had better access to different fish landing centres, were able to check availability, prices, and come to a better decision as to where to procure fish for vending. Though, they found that they could not eliminate middlemen in these landing centres, the access to information and the ability to exchange information with other fish vendors provided them with better choices to make an informed decision. This accessibility of information enabled the women to buy fish at better prices and also reduce wastage. In addition to this, when fish was not available in one of their preferred landing centres, they found that using mobile phones enabled them to save time, transportation costs, and find alternate markets to buy from. Thus these fish vendors were not limited to buying fish from a particular landing centre or a regular market.

Among the large scale fish vendors, it has led to better coordination with their customers (hoteliers, caterers) helping them to meet customer demands and ad hoc requests if any. Use of mobile phones offered them the opportunity to retain and expand their existing networks, organize contacts, coordinate purchases and possibilities to enhance their earning capacity through increased business contacts, thus offering them opportunities to enhance their livelihood means. Though mobile phone use has helped them in their work and they have derived benefits from its use, it is has not been a reason for anyone to choose fish vending as a lucrative option to earn a living.

While many fisher women expressed a desire for better living conditions, and increase in livelihood means, many were indifferent to the potential of the mobile phone to improve their economic conditions and its role in improving their livelihood means. For women

who do realize its potential and tap into the benefits it has to offer, they seem unwilling to use it for these purposes and claim that they are quite satisfied with the way their lives are. They are limited by the cultural and traditional beliefs of the community they belong to and feel that their actions might be seen as overambitious with unsettling consequences to their lives.

The findings indicate that though the fisher women use their mobile phones to aid their daily fishing vending routine, for many fisher women adoption of mobile phones were not motivated by its economic benefits.

5.1.2 Social Impacts

The findings indicate that for many of the fisher women, the mobile phone is a means to stay in touch with family members and children. The motivation for adoption was due to a few reasons; firstly, the ability to stay in touch with family, friends and relatives. Secondly, the sense of security and safety mobile phone use ensured especially for those fisher women who sell in the late evening markets. Thirdly, many felt that in the event of an emergency they could easily be contacted. The women realized that beyond staying in touch with family and friends, the mobile phone is an effective tool for carrying out the multiple roles that women play – the mother, the caregiver and the community link. With the adoption of the mobile phone women are able to effectively manage these roles. The mobile phone enables them with the means to micro-manage and coordinate activities at home thus aiding to effectively running the household while at work in the markets or travelling. It further enables them to keep in touch with community and social networks. The use of the mobile phone illustrates how it is being used to fulfil their social roles and responsibilities.

Men and women use technology differently, and this is the case with the mobile phone use as well. Women have been known to use mobile phones to maintain and strengthen their social networks, more in keeping with social functions that it can aid in. The findings show that even among the fisher women, many voiced that their primary purpose of using the mobile phone was to stay in touch with family and friends. Many women also pointed out how they use the mobile phones to manage their children and guide them at times when are away from home. This use of the mobile phone is in line with Rakow's 'remote mothering' concept (Rakow 1992; Rakow and Navarro 1993). The women's use of mobile phones clearly illustrates how they use the phones to remotely mother their children while away at the markets. While before using the mobile phones, they usually relied on their eldest children to take care of the family, now they are able to manage their families on the go. This benefit of the mobile phone is particularly valued among the women.

The findings lead to the surmise that the women are the last to resort to using mobile phones in the fishing community. It is to be noted all the families had at least one member who was in the possession of a mobile phone. In most families, the fisher women were the last to choose to buy the mobile phone. This can be attributed to two reasons, firstly many feel that they are technologically incompetent; and illiteracy is seen as another hurdle to adoption since content is in English; secondly, many women did not feel the need to own mobile phones. They were convinced to adopt and use mobile phones by their family members or chose to use it when other women in the community started using phones.

It has to be pointed out that the fisher women's uses of the mobile phones are basic and limited. While there is no evidence of gender based inequalities to the access to mobile phones, their use of the ICT is limited by their socio-cultural and economic backgrounds. Their lack of education and technological competency in using even a basic device makes it difficult for them to explore the affordances of the mobile phone. Moreover, their

technological backwardness coupled with their lack of education robs them of the confidence in using the mobile devices they own. All the fisher women used the phone for its calling function; functions like the SMS are not used due to illiteracy.

The findings, however do not point to any significant improvement in the standard of living of these women. There is the discourse in development that ICTs can positively contribute to the alleviation of marginalized communities and women. Mobiles for development (M4D) are relatively new perspective within the ICT for development discourse. The use of mobile phones, in keeping with existing literature does have economic and social impacts on the lives of the fisher women. Mobile phones are inexpensive compared to other ICT devices, and allow those previously with no means of access to a communication device to be able to communicate and access information. The findings show that many women who started using the mobile phone for social and personal reasons soon found that it has economic benefits as well. However, the mobile phone is a personal device and the way the women choose to use it depends on their own requirements and needs. While development discourse points to mobile phones as tools to enhance livelihoods this might not be the case as users reserve the right to use it according to their own needs. Thus, the needs and goals of the users and the development goals might not concur, leading to skewed pattern of development.

Donner (2009) points out that it is the social functions of the mobile phone that foster its adoption, and in turn these functions 'inform the very behaviours that make the mobile a tool for economic development.' For most of the fisher women who adopted the mobile phone they were motivated by the social functions only to later realize its uses in helping them with the work they do. Only a few respondents expressed the need for the mobile phone as a means to improve their business and stay up-to-date about the market information such as availability of fish and prices in the different landing centres and

wholesales markets. The phone was means of communicating information which in turn helped them choose or decide the markets or landing centres to buy fish from. A difference is noted in the usage pattern of the large scale vendors, these fisher women seem to benefit more economically from mobile phone ownership than the small scale fisherwomen. The large scale fisherwomen benefit more from mobile phone use since they purchase larger quantities of fish to sell to their customers who are small scale hoteliers, caterers and other retail fish vendors. Most times, these fisher women also have a few landing centres from where they purchase fish. Owning mobile phones helps these women decide which landing centre to buy fish from for selling. Thus, adoption of mobile phones has significant influence on their lives and livelihoods, affecting the economic and social milieu of their lives.

5.1.3 Are Mobile Phones Empowering the Fisher Women?

Like stated before, the findings do not show any significant improvement in the lives of women to show a corresponding improvement to their standards of living. The use of mobile phones has not resulted in the freedom to move around, reduced discrimination or access to education and increased literacy, hence not really contributing to their social empowerment.

Many of the fisher families depend solely on the fisher women's earnings for the functioning and running of the household; the fish vending women take an active role in the decision-making processes in their families; this could be attributed to their role as the stable income earners in their families and given them a certain degree of economic empowerment. While the use of mobile phones have enabled them to go about their daily vending routines more efficiently, they continue to face challenges from the wholesale merchants with ready cash at the landing centres and markets. Fish resources are also

limited due to mechanized fishing. This has forced women who depend on fish vending as an occupation to resort to travelling to far away markets to procure fish and also to borrow money at exorbitant interest rates from money lenders.

While there is a certain level of economic empowerment among the large scale fish vendors since they are able to increase their profits by choosing to travel to markets with favourable buying conditions. They are able to do this since they started using the mobile phones. Moreover, these women are able to use the mobile phone to strengthen their existing customer base and also build on new customers. However, the smaller fish vendors seem to experience minimal economic empowerment. Many of them are limited by their resources to expand their selling capacity which in turn limits their earnings. Many of these women also seem resigned to their situations and exude a sense of inability to move beyond their conditions of life.

For the women to tap in to the empowerment potential of mobile phones or other ICTs, they need to be able to be aware of its potential to aid in their development. Moreover, since many of the women are illiterate, there is the need to inculcate in these women the need for basic education which can be accomplished through adult learning classes. However, many women due to the nature of their occupation lack time which would be a requirement in the event they need to undergo technology training. They also need to be made aware of how mobile phones could be used to enhance their earning capacity and empower themselves through the information they could access. They are also limited by their social and economic conditions which necessitates that they work to take care of their families. Their cultural backgrounds also need to undergo changes if empowerment of these women is to be realized.

5.2 <u>The Limitations of the Thesis</u>

The study does not claim to generalize its findings; it is unable to do so specifically since it is an attempt to understand the impact of mobile phone use among women fish vendors in a particular marginalized community. The research was carried out in early 2012 and the situation and social milieu of women are dynamic. Thus, future studies will probably yield different results.

All the interview respondents owned and used mobile phones for different durations of time; this may affect the reliability of the findings as it based on the fish vendors' experiences which may vary on the duration of use. Their responses to interview questions may also have been restricted considering that they were sharing their experiences with the researcher, who is well off from them and living in better conditions, and who is also a stranger. This may have influenced their responses though every effort was made from the researcher's part to put them at ease.

Further, the findings are only relevant to fish vending women and not to other women from the marginalized fishing community even though they may be mobile phone users. While they may face similar problems, the problems cannot be generalized to other women. Thus, the findings only represent the fish vending women's experiences. Hence future studies may address mobile phone using women in the community as a whole.

5.3 <u>Future Research</u>

There is potential for future research to explore the effects of mobile phones on women in marginalized communities. Since this thesis only dealt with a fishing vending women from 4 fishing villages, future studies may explore the fish vending women as a whole from the entire community.

The focus of this thesis was to understand the reasons for adoption, use and benefits and the resulting economic and social impacts of mobile phone use among fish vending women; future research could focus on whether there is any empowerment arising out of mobile phone adoption which has resulted in alleviation in the social status of these marginalized women. This would be of significance especially since women are among the most marginalized in this community and this thesis could form the background to such work.

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