

ENDEAVOUR RESEARCH FELLOWSHIP¹

PROJECT REPORT

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Executive Summary

In November 2009, I became the recipient of an Australian Government 2010 Endeavour Research Fellow Award to conduct ICT-enabled rural development research in Bangladesh and Peru. The aim of the study was to explore how rural women can be empowered with the help of information and communication technologies (ICT) to address regional challenges in areas such agriculture, collaborative business development and entrepreneurship as the basis for sustainable livelihoods and rural community resilience.

There is growing acceptance that appropriate use of ICT can lead to improved knowledge and productivity necessary for long-term economic stability and sustainable development of regions in a globalised world. In particular, ICT can be a vital tool for rural communities in accessing market information and practical knowledge in terms of farming and developing new products. Integrating ICT and empowering rural women by promoting women's entrepreneurship has been recognised as an important approach to alleviate rural poverty and enhancing sustainable rural development.

This study started in Bangladesh where, in collaboration with a local NGO and community stakeholders, an in-depth gap analysis was undertaken in two rural agricultural communities. The analysis identified information/knowledge gaps and looked at ICT-enabled resource management and value chain opportunities to increase community income. The study continued in Peru, where a number of rural agricultural and handicraft enterprises/associations were visited and interviewed. Data generated in the two developing economies were analysed and compared for future intervention purposes.

The study adopted a social constructionist epistemology (Chell, 2000), reflecting the view that women's empowerment has multiple (economic, social, environmental, cultural, contextual) aspects and the 5-capitals framework (Porritt, 2005) to ensure both a holistic incorporation of empowerment and a steady-state sustainable development approach (Daly, 1992). Using Action Research (AR) processes as its methodology, the intention was for the research to build on existing strengths and be a learning process for all involved.

The study found strong links between gender empowerment and collective action. In particular, communities that are organised into associations or cooperatives are more resilient than when women entrepreneurs go it alone. Where collective action exists, there is increased agricultural productivity, strong community support, and improved social status for women. Lessening dependency on a partner increases women's decision making capacity inside the family, enhances family relations, contributes to a reduction in violence and generally improves nutrition, health and education conditions for the whole community. In other words, creating opportunities to generate income opens up a new era of economical and social empowerment. When collective action is supported by social enterprise and shared value creation, more holistic and sustainable development opportunities arise.

In comparing the findings in both countries, and particularly comparing the five capitals in both developing economies, there are distinct similarities in the make-up of rural communities. Both have achieved progress towards becoming prosperous economies and a better society. Both have many assets, but wealth tends to be centralised in the capital cities of Dhaka and Lima with rural market failure, poverty, and in many cases extreme poverty, not being addressed effectively. This is partially due to extensive informal economies operating in weak enabling environments. There is limited, and often disruptive rural infrastructure, unreliable communication channels, inadequate electricity, water, transport, and embedded corruption in market mechanisms and finance systems. Larger parts of both societies and regions need to be included in the progress path.

In both economies ICT for development -- and in particular the use of the Internet and e-business as used in more developed economies -- remains in its infancy, which can be ascribed to the poor rural infrastructure, prohibitive cost, little understanding of the potential of ICT and a lack of ICT-enabled business training opportunities. However, the reach of mobile phones by far outnumbers any other communication device. Mobile technology use is pervasive and growing rapidly in both economies, driving the informal economy and providing opportunities to use mobile devices for tasks such as information/data collection and retrieval; supply chain communication; transaction, credit, insurance and loan payments; business, viral and social networking; technology transfer;

accessing services and learning. As such, mobile technology is a powerful enabler for women's empowerment.

In terms of best practice, Peru's comprehensive rural ICT-enabled systems (as presented by Agro Rural), which includes face-to-face knowledge brokering, Internet cabins, radio and cellular phone information distribution merits further investigation in terms of effectiveness and potential knowledge transfer to Bangladesh. The social enterprise model practiced in northern Bangladesh merits further investigation in terms of effectiveness and potential adoption in Peru.

Study recommendations

The resilience of rural communities is closely intertwined with infrastructure, socio-cultural, environmental and governance variables.

1. Improve and leverage business enabling environment, including (ICT) infrastructure to create steady employment and entrepreneurship opportunities for rural women.

The key challenges for improvement include better infrastructure – including better rural infrastructure and services such as energy and transportation and better governance --, integration of the informal economy, reduction of risk, corruption and the poverty cycle, and the adoption of value added and green business models that mitigate poverty and climate change. In the first instance this requires a coordinated approach by establishing public-public partnerships among government departments that govern infrastructure, trade, ICT, women and social development. Coordinated approaches can be augmented by public-private partnerships. When a social enterprise invests in the women of a community or region, and is aware of the local (employment) needs, new opportunities arise for product differentiation and new markets, including regional markets. These opportunities are not static; they change constantly as technology evolves, economies develop, and societal priorities shift (Porter & Kramer, 2011).

Partnerships can be established on a number of levels, e.g. range from involvement of corporates to medium and small enterprises, among women's business associations and export bodies. Social enterprise linkages and (domestic and international) partnerships

can be encouraged, promoted (and regulated) by government in terms of addressing women's most pressing needs. By partnering with a community, the social enterprise directly supports employment/entrepreneurship opportunities for women; but can, for example, also support components of child and other social care to alleviate women's domestic work burden and improve their ability to generate income. Employment and performance standards, gender indicators and measurable social development goals can be set without being too prescriptive on methods. This motivates and enables continual improvement beyond current targets and allows for formative and summative evaluation.

Partnerships can also be established for a particular purpose, e.g., with telecommunication enterprises to help strengthen ICT and mobile infrastructure and offer applications that allow access to timely information, such weather, crop-pricing and agricultural advice (for farmers) and fairs, market and trade opportunities for handicraft associations. The latter should build on existing ICT and knowledge diffusion system in regions (such as in the Cusco-Puno Corridor as presented by Agro Rural), which would benefit highly from reliable broadband infrastructure, explore the adoption of a gender-sensitive usage and knowledge diffusion strategy and piloted for the delivery of targeted and interactive business information, advice and skilling for rural women entrepreneurs.

2. Strengthen economic clusters, associations, cooperatives and networks to enhance the value chain, diversification and access to markets

While government and NGO assistance provide great value, when development programs and support ends, many enterprises suffer from a lack of continuity and critical mass. Especially the size and remoteness of small producers is an issue and there is a need to strengthen linkages, networks and trading partnerships.

The competitiveness of regions depends on the productivity in the use of human, capital and natural resources, which in many cases do not come together in rural communities. Research supports the congruence between societal progress and productivity in the value chain. By performing gender-sensitive value chain analysis, a sound business environment can be created that encompass more sophisticated production clusters. Value chains encompass the full range of activities and services required to bring a product or service from its conception to its end use. Value chains include input suppliers, producers,

processors and buyers; a range of technical, business and financial service providers; and the final markets into which a product or service is sold, whether local, national, regional or global (Porter, 1985). Value chain analysis describes the activities within and around an organisation, which is inevitably affected by issues such as access to inputs and resources, determining the competitive strength of the organisation.

Understanding how women – and in particular women’s associations and/or cooperatives can participate and become more competitive in the marketplace – requires both systemic and systematic analysis of the factors affecting the performance of an association inside the value chain and the relationships among all its actors. Understanding the interplay between actors and managing the linkages (or information flows) between these activities creates economic potential and strengthens networks. A stakeholder-driven approach that incorporates the five capitals allows for targeted intervention, value adding, diversification and investment. Value chain analyses triggers fundamental innovation, economic diversification and technology transfer which in turn contributes to community resilience. Exposing gaps and inefficiencies in the supply chain encourages local cluster and network development, supporting local capability through a new geographic concentration of service providers, logistical infrastructure, education institutions, etc.

Encouraging face-to-face meetings, knowledge and resource sharing among associations or cooperatives – as is for example the case between two Bangladeshi communities who now share organic farm practices and access to the seed bank builds strong social capital and expands business networks. Complementary ICT-enabled solutions can be implemented to support network building, such as setting up a virtual regional network space for participating SMEs and associations – including Indigenous women and associations – to share information and knowledge, best practice examples (such as the Suri Andino Asociación de Artesanos in Puno which has a good quality control and outsourcing model) and business networking purposes. Such virtual networks can, in turn, link to established organisations such as PromPeru and ComexPeru which link into global trading platforms such as Alibaba.com, or enterprises can link independently to these platforms.

3. Strengthen knowledge economy skills to assist women-led enterprises

The importance of empowering women to take a more productive role in today's economy requires understanding and utilising women's skills and talents more effectively. Strengthening the skills and capabilities of rural women (and men) is essential to their participation in the knowledge economy. The digital revolution requires a new set of skills, including basic knowledge of how to use a computer and computer programs before even going online. Basic knowledge is gradually replaced by a better understanding and more efficient use of the medium. Where computer access is lacking, computer skills may need to be substituted by mobile technology skills.

But knowledge economy participation requires more than technology knowledge.. Within the lifelong learning framework, there is a growing need to provide women in business, and all members of the workforce, with a comprehensive set of so-called 'meta-competencies', a combination life/career management. These skills also include the ability to respond to change; the capability to identify career and learning opportunities; problem solving, initiative and enterprise skills; teamwork, learning and self-management skills; and communication, (e)marketing skills, including competencies such as collaboration, interpersonal skills and interactive communication. The focus should be on practical skills, market trends, technology and knowledge transfer.

There is a vastly underserved education market of rural entrepreneurs. It is imperative that skilling is targeted to the business needs of women, many of which are beyond start-up and which may, for example, be different for indigenous women. To that end, it is useful to include women in the design of skilling as it both empowers them and creates stewardship of the skills. The latter is also useful for future knowledge transfer. Given that access to technology is not ubiquitous, skills delivery needs to be designed in multi-modal format, ranging from face-to-face to online to video-conferencing and mobile-based delivery. It is also imperative to build on evidence-based skilling models and programs as to not reinvent the wheel. The latter can be achieved by creating partnerships with existing programs and educational institutions that understand the essence of knowledge economy skilling and can deliver via multiple platforms.

4. Strengthen public-public and public-private partnerships for coordinated gender-sensitive approaches and knowledge transfer.

The future of regions is strongly dependent on a national action plan that enables and supports public-public and public-private partnerships. Public-public partnerships are necessary to enhance the business enabling environment, improve overall infrastructure and reduce bias and corruption. This calls for a coordinated approach across portfolios.

Even with coordinated and substantial interventions, it is not feasible for government alone to address market failure, provide subsidies or finance welfare programs and it is hence recommended that public-private partnerships (PPPs) are pursued to help address issues, create business opportunities and resilient communities. Investment by and committed participation of the private sector does require a sound business environment.

Gender awareness should be integral to all public-public and public-private partnerships, programs, budgets and processes in order to avoid retrogressive gender stereotyping. Technical oversight for gender mainstreaming, action-based methodologies, formative and summative evaluation, universal sex-disaggregated measurement and performance-reporting systems should underpin PPPs, with government investing in infrastructure for collecting reliable benchmarking data on women's empowerment.

Including gender-specific and gender-transformative components in rural development projects across portfolios will contribute to gender empowerment, a higher rate of female employment, female entrepreneurship and resilient rural communities.

Project Background

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The Asia Pacific region is home for over 60% of the world's population and more than 70% of the region's population lives in rural areas and primarily involved in agriculture. Globalisation is increasingly exposing small-scale farmers and micro entrepreneurs – the majority of which are women – to market conditions for which they are ill-prepared. Therefore, these women need to adopt new means such as diversification, value-addition, non-farm production and marketing mechanisms.

There is growing acceptance that appropriate use of ICT can lead to improved knowledge and productivity necessary for long-term economic stability and sustainable development of regions in a globalised world. In particular, ICT can be a vital tool for rural communities in accessing market information and practical knowledge in terms of farming and developing new products. Integrating ICT and empowering rural women by promoting women's entrepreneurship has been recognised as an important approach to alleviate rural poverty and enhancing sustainable rural development.

The project aimed to get a solid understanding of the impact on local conditions and opportunities within a global knowledge economy context with the goal to create an evidence-based, replicable 'toolkit' for the future mapping and implementation of ICT-enabled entrepreneurship and network solutions that connect women in developing economies to knowledge economy opportunities and socio-economic advancement that supports sustainable livelihoods.

Prior to describing the methodology for and reporting on the data collected during the course of this project, it is deemed useful to provide a brief overview of globalisation, ICT developments and women's entrepreneurship.

Globalisation

The past three decades have witnessed rapid globalisation in the world economy with globalisation and international competitiveness now firmly embedded in most economies' growth strategies.

In particular there is a strong globalisation trend in production and labour markets. One such globalisation trend is the offshore (out)sourcing of production and services by (corporate) firms seeking cheaper inputs abroad. This is the case not only for low-skill, assembly-line jobs, but also for jobs requiring advanced computer and engineering skills. In fact, a truly competitive global labour force has been developing that is willing and able to do these jobs most efficiently at the lowest possible cost. Service industries, such as making airline reservations, processing tickets and answering calls to toll-free numbers are not immune to global job competition. Highly skilled and professional people are not spared from global competition as companies in advanced countries are outsourcing more and more of their work to emerging markets in order to bring or keep costs down and remain internationally competitive (Salvatore, 2010). But globalisation does not just affect corporate-size firms. Enabled by ICT, businesses of all sizes are now able to enter the global marketplace, either directly or indirectly through intermediaries, and explore business-to-business (B2B) and business-to-consumer (B2C) opportunities.

There are varying views on globalisation, in particular pertaining to the question whether and to what extent globalisation effects international competitiveness and growth of economies (Salvatore, 2010). Stiglitz (2002) concludes that globalisation has benefited mostly the rich or developed economies at the expense of developing economies. Krugman (1994) is of the opinion that economies should only consider productivity (generally a measurement of output from a production process per unit of input), labeling the concern with competitiveness a "dangerous obsession". Among ecological economists, the phrase "steady state economy" is now often discussed in the context of the impacts of economic growth on ecological integrity, environmental protection, economic sustainability and resilience (Daly, 1992). The three main concerns of steady-state economics are sustainability, equity, and efficiency, each of which may be served via public policy. Neither economic growth nor economic recession are sustainable. It is the position of the author of this report that a steady state economy is the most sustainable prospect for all

economies, including developing economies like Bangladesh and Peru. Therefore, the report's economic development recommendations and related policy goals are underpinned by a perceived need for sustainability².

ICT

Due to the pervasive global ICT revolution -- which is driving a paradigm shift in human civilisation from a post-industrial base to an information society and knowledge-based economy -- it has become increasingly difficult to ignore globalisation as it impacts every business and every household. As computers, mobile technologies and multimedia continue to converge, millions of people are connecting through cyberspace and virtual networks that provide opportunities to buy and sell merchandise, interact, exchange ideas and collaborate. Referring to the advent of ICT as 'the third industrial revolution (mid-to-late 20th century), Warschauer (2003) acknowledges the significant role of ICT in the global economy, not only in terms of optimising production processes, but also in terms of quality of information and management, consumption, distribution and trade.

With an economy enabled and driven by connectivity, a fundamental shift in business models is occurring whereby information, knowledge and relationships underpin competitive advantage (Pfeffer & Sutton, 2000). More specifically, in the knowledge economy innovation relies on ICT use, highly educated and skilled people, progress in science and technology, and the development of small and medium sized enterprises (SMEs) (Huyer & Hafkin, 2007). New technologies lower the costs of information access and facilitate communication across geographic distance, allowing for more flexible working arrangements. This may provide an advantage to women (Braun, 2007), in particular for those located in rural centres, whose work patterns are frequently characterised by multiple responsibilities and where the asymmetry in time obligations between men and women is most evident (Ross and McCartney, 2005).

² Economic growth is distinguished from 'economic development' which refers to qualitative change independent of quantitative growth. For example, economic development may refer to the attainment of a more equitable distribution of wealth (Czech 2006), www.eoearth.org/article/Steady_state_economy.

With ICT considered to be a primary enabling factor for business and e-business, entrepreneurs, regardless of gender, are now expected to have at least basic ICT skills to develop, grow or innovate in their enterprise. However, many women — particularly those in developing economies — still find themselves on wrong side of the digital divide, let alone on the wrong side of the knowledge economy (Huyer & Hafkin, 2007). To participate fully in knowledge-based activities, women need access not only to new technologies, but also to education and entrepreneurship opportunities.

When focusing on digital inequality we tend to think about the need to have a technologically skilled workforce. While this is important, it is imperative to understand the mutually evolving relationship between technology and society. Technology is not an isolated acting artefact in society but rather an enabling technology that can improve the quality of life or business and expand the range of opportunities, provided the necessary skills are mastered (Warschauer, 2003). Conversely, Chen and Wellman (2003) warn that individuals, social groups and nations on the wrong side of the digital divide can be excluded from the knowledge economy. *“If pre-existing inequalities deter people from using computers and the Internet, these inequalities may increase as the Internet becomes more consequential for getting jobs, seeking information, and engaging in civic or entrepreneurial activities”* (Chen & Wellman, 2003, p.25).

DiMaggio and Hargittai (2001) suggest a holistic perspective vis-à-vis digital inequality, proposing five dimensions along which inequality may exist. These dimensions include: technical means, autonomy, skills, social support, and purpose, each of which is outlined briefly below.

- *Technical means.* To use the internet, it is necessary to have access to a computer (or, nowadays, a digital mobile device) and internet connectivity. Both equipment and connectivity speed directly impact the ICT experience and the (positive or negative) stimulus for future use.
- *Autonomy.* The type and place of use influences behaviour, e.g., sharing a computer and internet connectivity with others may impact privacy and restrict access and (surfing) freedom.

- *Skills*. The digital revolution requires a new set of skills, including basic knowledge of how to use a computer and computer programs before even going online. Basic knowledge is gradually replaced by a better understanding and more efficient use of the medium.
- *Social support*. The adoption and diffusion literature (Rogers, 1995) points to the influence of a social support network as a key enabler for adoption. Not only do people benefit from peer support and encouragement, social networks help to tap into collaborative learning and (web-enabled) social support.
- *Purpose*. Socio-economic factors influence the uses of the internet and therefore, one size does not fit all. DiMaggio and Hargittai (2001) distinguish between internet users who maintain relations with members of their social or business network – and increase human and social capital – vs. those who use the medium primarily for recreational purposes.

Empowerment & Entrepreneurship

Traditionally, the study of female entrepreneurship has been motivated by gender differentiation and equality issues. There is a longstanding body of literature on women entrepreneurship, covering myriad factors ranging from public policy to differentiation in personal attributes, demographics, motivation, networks, financial barriers and other inhibiting factors.

Today, research and policy are increasingly fuelled by the idea that female entrepreneurs are important for economic progress and that ICT may offer important flexibility in terms of both the times and the places where work and business is carried out (Braun, 2007). Even when issues such as barriers and obstacles to female entrepreneurs are raised in the gender and entrepreneurship debate, this is usually done from the perspective that female entrepreneurs are an untapped resource and have potential to contribute to a country's economic performance. Thus, entrepreneurship is constructed as "*something positive, leading to improvement. It fits nicely into the grand narrative of modernity in which development not only implies change but also implies progress, which is both valued and expected*" (Ahl, 2006, p.602).

The importance of empowering women to take a more productive role in the workforce is the essence of *Womenomics* (The Economist 2006), defined in the popular press as the science of understanding and utilising women's skills and talents more effectively in today's economy. The European Commission (2002, p.3) reinforces this view through its attention to promoting female entrepreneurship. Indeed, although gender equality is one of the arguments underlying the support for female entrepreneurs within the European Union, the argument that female entrepreneurs (have the potential to) contribute to economic performance plays an important role. But what exactly does empowerment mean?

“The empowerment of women is the *process* by which unequal power relations between men and women become transformed and women gain greater equality with men: in other words it is the process to challenge social restrictions and social norms for women which are barriers in the way of their development so that their confidence level can increase and they can also contribute to nation's development and participate in *political, social and economic life at the local, regional and national level*. By *social* empowerment we mean a more equitable social status for women in society. *Legal* empowerment is the provision of an effective legal structure which is supportive of women's empowerment and *political empowerment* means a political system favouring the participation in, and control by women of, the political decision making process and its associated governance” (Jatana & Crowther 2007, p.40).

Since women's empowerment and contribution to economic progress and innovation is a persistent discursive practice generating growing global interest (The Economist, 2010), it is important to understand how women's contributions to GDP can best be harnessed. However, from the above description, it is clear that women's empowerment needs to be *holistic* and can neither be separated from or be pursued to the detriment of important questions such as gender equality and gender/power relations (Griffin, 2010).

Study Framework & Methodology

Policy makers may talk about empowerment, but often are still seeking to *amend* gender disadvantages rather than *harness* gender differences (perpetuating a deficit view vs. opportunity seeking view). This research moves away from a deficit view, using a strengths-based approach that is informed by principles of empowerment, appreciation and participation. The overarching premise underpinning the study is ‘when women benefit from socio-economic empowerment, the whole community benefits’. If women are unable to engage in and actively contribute to the knowledge economy, they will be deprived of the opportunity to develop to their full potential, express their perspectives and creativity, and explore socio-economic opportunities for themselves, their families and the resilience of their communities and region (Huyer & Hafkin, 2007).

The study adopts a social constructionist epistemology (Chell, 2000), reflecting the view that women’s empowerment has multiple (economic, social, environmental, cultural, contextual) aspects. As Chell (2000) points out, the social and cognitive aspects of entrepreneurial behaviour work together; within entrepreneurial processes there is a balance between economic and social behaviour that creates both economic and social value.

In order to accommodate the multiple aspects of women’s empowerment, the study adopted the (Porritt, 2005) 5-capitals framework (Figure 1) to ensure both a holistic incorporation of empowerment and a steady-state sustainable development approach, where the focus is on natural capital vs. man-made capital (Daly, 1992).

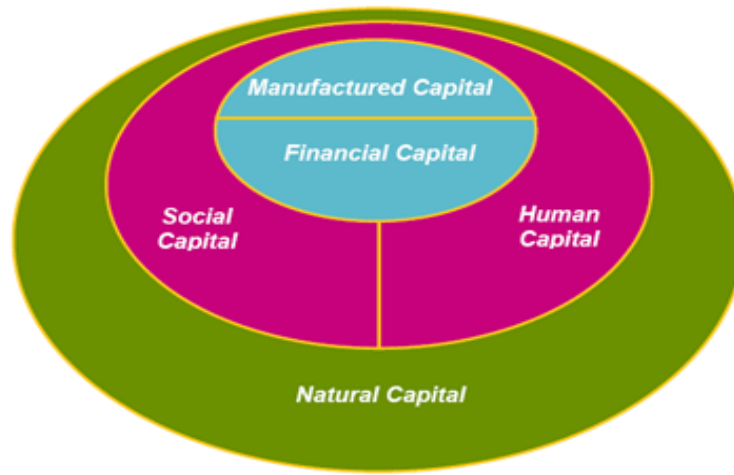


Figure 1 - Five Capitals Model

Adapted from Porritt, J. (2005) *Capitalism As If the World Matters*

Natural capital = the energy and materials required to produce goods/ services.

Human capital = the health (physical, motivation, time), knowledge, skills of a community/region.

Social capital = families, communities, networks, institutions that help develop and maintain the other capitals.

Manufactured capital = fixed assets, infrastructure, utilities that contribute to economic, social and environmental processes.

Financial capital = enables the other capitals to be measured, owned and traded.

To prepare for the increasingly important role women are expected to play in the knowledge economy and examine how best to harness rural women's potential, the study addressed the following research questions:

- What capitals/strengths does the rural community currently have?
- What are the gaps in capitals?
- How can ICT assist rural women's empowerment and related community resilience?

Adopting an Action Research (AR) process as its methodology, the intention was for the research to build on existing strengths and be a learning process for all involved. For participant organisations and communities, the AR process was expected to lead to a

stronger focus on gender as well as increased capability to integrate gender into development and innovation.

Based on the aforementioned research objectives, a number of field visits took place in rural Bangladesh and rural Peru. In most cases, cooperatives and/or associations were visited representing groups of women entrepreneurs. In Bangladesh, in-depth gap analyses were undertaken with two rural communities, during which aforementioned research questions were mapped in more detail. In Peru, field visits were undertaken to dispersed locations, visiting both agricultural and handicraft (artisan) communities. No gap analyses took place during the Peruvian visits and findings are based on observation and/or interviews with stakeholders. For the latter, a brief questionnaire was prepared (see Appendix 1 (English) and Appendix 2 (Spanish) questionnaire), which aligned as closely as possible to the processes of inquiry that took place in Bangladesh. Salient study findings follow below.

Study Findings

The first part of this section describes the study results from Bangladesh. It starts with a brief country context followed by in situ study results. Next, a similar section outlines the Peruvian context and findings. The Bangladesh and Peru findings are followed by a general discussion including, where possible, comparisons between the two developing economies. The report concludes with recommendations on future directions pertaining to ICT-enabled mapping tools and empowerment programs for rural women and their communities.

Country Context – Bangladesh



Bangladesh has a predominantly Muslim population (over 80%) of close to 160 million people, with males outnumbering females. The Bangladesh economy is classified as a developing country with an average per capita income of US\$1500/p.a. According to the IMF, in 2009 Bangladesh ranked 57 in the world economy, with a gross domestic product of US\$94.6 billion. The economy has grown at the rate of 6-7% p.a. over the past few years. More than half of the GDP belongs to the service sector with nearly half of Bangladeshis employed in the agriculture sector. Almost all households depend on employment as their main source of income.

Poverty reduction is a central policy challenge for Bangladesh, one of the poorest countries in the world. There is a strong gender dimension to poverty here as the distribution of consumption within households favors men. Bangladesh is a highly patriarchal society and gender discrimination is present at all levels of society. Women are dependent on men throughout their lives, from father to husband to sons. While there are constitutional affirmations of gender equality, women are mainly recognised for their reproductive role with other rights frequently ignored. Young women are more disadvantaged in access to education, health care and financial assets. Girls are married off young (between the age of 15-19) to decrease the economic burden on the household and polygamy is still practiced by over 10% of married men. Early marriage and dowry customs are major factors in the continuation of domestic violence against women. Due to increased poverty and an increased demand for labour, female employment has risen since the mid 1980's.

Women entrepreneurs constitute less than 10% of the total business entrepreneurs in Bangladesh whereas women in advanced market economies own more than 25% of all businesses. Despite many barriers, a new women's entrepreneur class has arisen in the country taking on the challenge to work in a male-dominated, competitive and complex economic and business environment. Not only have their entrepreneurship improved their living conditions and earned more respect in the family and the society, but they are also contributing to business and export growth, supplies, employment generation, productivity and skills development of the country.

A report released by the U.N. Population Fund in 2000, asserted that 47% of adult women had reported physical abuse by their male partner. As reported by the Committee on the Elimination of Discrimination against Women (CEDAW), the government has taken steps to address this problem by passing laws against these practices. The Prevention of Women and Children Repression Act, adopted in 2000, contains several important provisions. It identifies sexual harassment and repression as punishable crimes, and establishes a death penalty for those found guilty of rape charges. It also protects women by prohibiting newspapers from publishing photographs that identify the victims of such crimes. However, these laws have proven difficult to enforce, especially in rural areas where traditions and family customs tend to govern social life. A 2009 Care Bangladesh report indicates that violence against women is actually on the increase.

Usage of ICT has increased exponentially in Bangladesh over the past decade, with the biggest growth in use of mobile phones. In 2008, 27.9 of every 100 people in Bangladesh had a mobile phone with 90% of the population covered by a mobile cellular network whereas only 2.3 of every 100 people had a personal computer, 0.3 used the Internet, 1.3 could afford a subscription (World Bank, 2008). The uptake and use of ICT by (women-led) SMEs in Bangladesh is still in its infancy.

Despite women's growing role in agriculture, there is evidence that social and customary practices virtually exclude women from equal rights to property. It is often the demographic composition of a woman's household that determines her qualification for and access to bank loans and other forms of credit. A woman's lack of mobility, particularly in rural areas, forces her to depend on male relatives for any entrepreneurial activities. While Bangladesh's NGOs provide micro-credit to a large number of women, there is a growing concern to whether or not these women actually retain control over their loans (composite of sources retrieved from the World Bank, IMF and www.wikigender.org/index.php/Bangladesh).

Bangladesh Study

A total of five weeks was spent in the Khulna and Jhenidah regions of Bangladesh during which a number of rural communities were visited (September-October, 2010). Table 1 provides an overview of these communities and the gaps/issues encountered in each.

Community	Location	Make Up	Main Activity	Assets	Gaps/Issues
LOCOS (NGO) works with 500 households in region	Botia Ghata in the Khulna Upazila (region).	Women’s farming cooperative of 21 families	Agriculture - Organic farming	Seed Bank (49 varieties)	Soil salinity, short cropping season (4 month/yr; lack of work large part of year
ARSHI (NGO)	Shahapur, in the Damuria sub-district of Khulna	Loose group of individual micro entrepreneurs	Agriculture aquaculture + micro entrepreneurs 'middle man' marketers of the local products	Muri rice puffing technology	Lack of market information; lack of upgraded technology; low return on investment; micro credit issues
JOYNOGOR	Kamarkhular Union, sub-division Dacope, Khulna District.	Loose group of individual micro entrepreneurs	Aquaculture	None	Cyclone/floodin g; no infrastructure; technology needed to rebuild the polders is lacking; live on aid
BUMIJA (NGO)	Tala Satkhira in the southwest region	Dalit (women & men) community	Cobbling, hairdressing, fish farming, poultry and duck rearing	Own businesses	marginalised Hindu caste; dependent on aid; lack access to wider market

Table 1 – Overview of Bangladeshi communities (Cont.)					
Community	Location	Make-Up	Main Activity	Assets	Gaps/issues
Women's Employment Centre	Tala Satkhira in the southwest region	Women's cooperative	Handicraft, sowing, needlework	Handicraft products	lack volume and market access; marketing knowledge
CocoWorld Inc. (for profit) in collaboration with Care Bangladesh (NGO)	Wider Bogra and Rangpur region, Northern Bangladesh	19 production units employing approx 600 people	Handicrafts handmade baskets and small carpets	Steady work/ piece work income	Functioning SME social entrepreneurship model; enough demand to keep women in work
PROGOTI (NGO)	Shyamnagar Upazila district, south-west coastal region of Bangladesh	Loose group of individual micro entrepreneurs	Agriculture + handicrafts		Cyclone/flooding threat. No access to markets, unfair prices for crops, discrimination against minorities
Jhenidah – central location	Jhenidah region	Farming coop(s)	Agriculture	Knowledge brokerage system, credit MOU with market committee	Crop results subject to flooding, pest: credit default; increase collaboration
Subah (NGO)	Mehepur, Jhenidah region	Women's Farming coop	Agriculture	Land; mobile phones	lack volume and market access; marketing knowledge

In depth gap analyses were undertaken with Locos and Arshi communities, posing four simple questions:

- (1) what do you currently have (assets),
- (2) what exists and is needed (resources)
- (3) what doesn't exist and is needed (policies, infrastructure, assistance), and
- (4) what barriers prevent your progress?

(1) Locos has ample human resources, a sound cooperative structure, the spirit and ability to change, and a seed bank they can rely on. The latter provides a level of independence from corporations such as Monsanto and their representative seed dealers who sell hybrid seed to the rural farmers. Hybrid seed grows faster and returns higher profits, but the seed is owned by the corporation, leaving farmers dependent on the corporation with no ownership of their own future. The Locos women's cooperative has a commitment to organic farming ~ the women farmers apply organic fertiliser and pesticide, almost every household composts. Members of this community use group savings to provide loans among its group members to buy seeds.

Arshi consists of a loose group of micro entrepreneurs. The community makes its income from purchasing muri rice from the market and turning it into puffed rice. They buy 100 kg of muri rice @ 3600 Taka (100 Taka is approx. \$1,50) which they process overnight and end up with approx 90 kg of puffed rice which they sell at market for 4000 Taka. They lose about 200 Taka in production costs (buying fire wood, etc.) and end up with a profit of about 200 Taka.

(2) What exists, but is not available to them is capital, information, communication and transportation means, and integrated resource management.

The Locos cooperative has limited savings; Arshi has none. The rice puffing profits do not take into account the highly intensive labour costs by the women who spent 12-14 hours stirring rice until it pops nor the time it takes the men to paddle their bicycles back and forth to the market. The literacy level is low and while there are mobile phones in the community, the marketers generally do not have access market information and often do not get a fair/high price for their product. At present this is not a sustainable way to live and the community members talk about the need to diversify into poultry and livestock, but they are unable to diversify without capital and the farmers of this community express great trepidation about taking on a micro credit loan. They explain that loan conditions are harsh and inflexible, with interest payments running between 25%-33% (and can sometimes go as high as 80% as they continue to pay interest on the initial loan amount) with repayment starting immediately upon receipt of the loan and collectors visiting the village weekly to collect. This puts enormous psychological pressure on the farmers, hampering their daily work as they live in fear of losing the little that they have.

(3) What neither exists nor is available to either community are government policy and enabling environments to assist these type of cooperatives and micro/SM enterprises operating in the informal economy; current farming technologies; clean water; electricity; infrastructure and equal rights, especially for women and minorities.

(4) The barriers they face include natural disasters, salination and deforestation, red tape and exclusion from existing market syndicates.

For Locos the salinity in the soil in this district reduces their cropping season to about 4 months/year, which does not provide food or livelihoods for the rest of the year. NGOs do not fill this gap and the women farmers in the coop are desperate for additional income.

Since Arshi is not organised as a coop, it is every (wo)man for him/herself. They are hard workers and it would make sense for them to pool their resources. Literacy rate is about 25% and a few people have a mobile phone. There are no computers and no connectivity. Even if there was enough credit to diversify, this community would benefit if it had access to knowledge on how to improve their production and fish farming processes.

The in-depth analysis undertaken with these two communities reflect conditions in many rural Bangladeshi communities (details of other visits available from <http://globalsalon.blogspot.com>). Translating conditions into the five capitals model, it may be concluded that (women in) rural Bangladeshi communities have:

- (1) Restricted natural capital, as land is scarce, expensive and subject to climate change, flooding and hijacking by so-called 'land grabbers';
- (2) Ample human capital in terms of manpower, farming and indigenous crafts knowledge, but limited access to current market information and advanced technologies, lacking business, ICT (access and) knowledge economy skills;
- (3) Strong social capital and cohesion within cooperative structures and communities, but few network links into the wider marketplace;
- (4) A shortage of manufactured capital in terms of infrastructure/utilities that contribute to economic, social and environmental wellbeing; and
- (5) A shortage of financial capital or savings to support or trade the other capitals.

Summary

Communities that are organised into cooperatives are more sustainable than when women entrepreneurs go it alone. Where community capital and collective action exists, there is increased agricultural productivity, improved social status for women and female empowerment. Lessening dependency on a partner increases women's decision making capacity inside the family, enhances family relations, contributes to a reduction in violence and generally improves nutrition, health and education conditions for the whole community.

Since literacy levels are still relatively low in rural Bangladesh, the study found that the use of mobile technologies and local knowledge brokers ~ who are trained to use ICT to gather current information on behalf of communities and have access to local social capital/viral networks ~ reduces dependency on intermediaries, promotes regional collaboration, information exchange and diversification opportunities.

A noteworthy social enterprise model observed in Bangladesh is in the North where a collaboration between a commercial venture (CocoWorld Inc.) and an NGO (CARE Bangladesh) results in the employment of some 600 families across a number of local villages. Although the women get paid for piece work and their income (by western standards) remains low, the working conditions are good. Within this public-private partnership (PPP) women are empowerment through employment; the marketing and market access is in the hands of a global entrepreneur; and the NGO performs the task of training and handling funds for current & future projects. In comparing this model to other Bangladeshi communities dependent on micro-credit going broke; communities living on aid such as in the cyclone devastated community staying dependent and unmotivated; and communities trying to make ends meet by being day labourers or micro entrepreneurs without access to markets, this type of PPP has replicability potential.

Country Context – Peru



Peru is the third largest Latin American country with a (predominantly catholic) population of close to 30 million people with a diverse cultural heritage and geography which varies from the arid plains of the Pacific coast to the peaks of the Andes mountains and the tropical forests of the Amazon Basin. Peru is rich in natural resources such as copper, silver and gold and is wealthy in agricultural and fishing resources as well. Its main economic activities include agriculture, fishing, mining, and manufacturing of products such as textiles and handicrafts. The Peruvian economy is classified as a developing country with an average per capita income of US\$5,195/p.a. According to the the IMF, Peru ranked 51 in the world economy in the world in 2009, with a gross domestic product of US\$126.7 billion.

Peru is a country of extreme centralisation ~ with power and wealth centralised in Lima vs. extreme poverty in the rural areas. Centralisation is compounded by migration and demographics: one in three Peruvians is now resident in the capital, outweighing Lima's voting power over rural areas. With a poverty level around 36%, attempts to reverse the trend by decentralising power and decision-making have not resulted in more equal distribution of wealth. In 2006, Peru adopted an equal opportunity action plan followed by an equal opportunity law in March 2007, which it monitors on a yearly basis. The law promotes practices and activities to augment women's economic development and productivity, and reduce violence against women.

The Constitution of Peru upholds the principle of equality between men and women (MIMDES, 2007). The government passed a law in 2000 that criminalised discrimination, and introduced penalties requiring offenders to provide 30 to 70 days of community service. Despite such advances, long-standing social prejudice and discrimination against women has resulted in women experiencing higher levels of poverty and unemployment than men.

A law prohibiting early marriage was adopted in 1999 moving the minimum legal age of marriage from 14 to 16 years for both men and women. Polygamy is not commonly practised in Peru. In Peruvian families, parental authority is shared by the mother and

father, who have equal rights and obligations. However, the physical integrity of Peruvian women is not sufficiently protected and violence against women remains widespread. The World Health Organisation ((WHO) puts abuse by a partner at 11% in provincial Peru, but anecdotal evidence suggests that just under one-half of women living in a couple relationship have suffered violence at the hands of their partner on at least one occasion, while approximate 12 women each month die being victims from violence and in 2009 the Ministry for Women and Social Development stipulated the creation of a register of femicides (MIMDES, 2009). The government has acted to reduce violence against women and, in 2001, set up the National Programme against Family Violence and Sexual Abuse. A law adopted in 2002 makes local authorities responsible for policies pertaining to domestic violence. The law stipulates punishments for both rape and spousal rape, and the legislation is generally applied.

Peruvian law upholds the right to ownership for all citizens. However, women have limited access to land and only about 25% of land title deeds are granted to women. The Constitution and the Civil Code provide for equal rights for men and women with regard to access to property other than land and signing contracts. Each spouse has the right to manage his or her own property, but the phenomenon of “informal ownership” is often a source of injustice to women.

Usage of ICT has increased exponentially in Peru over the past decade, with the biggest growth in use of mobile phones. In 2008, 72.7 of every 100 people in Peru had a mobile phone with 95% of the population covered by a mobile cellular network, whereas only 10.1 of every 100 people had a personal computer, 24.7 used the Internet, 36.4 could afford a subscription (World Bank, 2008). SMEs make up 80% of all businesses but only about 30% use ICT for business purposes (Freyre, 2010, 2005). Approximately 2 out of 10 women work in microenterprises, as owner- workers or as unpaid family workers, with 54% of urban women running their own micro enterprise. The main activities for women entrepreneurs are in small scale services, retail and small scale commerce, and divisible manufacture activities, including textile confections, and jewellery (Lever, 2009).

Peruvian women have some access to bank loans. They benefit primarily from micro-credit programmes and other support mechanisms to establish and operate small- and medium-sized enterprises (SMEs). In recent years, about one-half of the loans granted were given

to women (composite of sources retrieved from MIMDES and GenderWiki www.wikigender.org/index.php/Peru).

Peruvian Study

A total of three months was spent in Peru, with a number of field visits conducted during the first two months (November-December, 2010). Most of the communities visited are located in the mountainous areas of Peru. As in Bangladesh, both agricultural and handicraft communities were visited. Table 2 outlines the Peruvian communities visited and the issues encountered in these communities.

Community	Location	Make Up	Main Activity	Assets	Gaps/Issues
Sumaq Qara	Ayacucho, Ayacucho province	Former association, now run commercially employing some 400 women artisans	Handicraft	Extensive network of artisans; access to markets; use of ICT thru Prom Peru	Enough demand to keep women in work
Asocacion Carmin 11 de Junio	Ayacucho, Ayacucho province	Association of approx 20 women artisans	Handicraft	alpaca shawls, gloves and toys using only natural materials and dye.	No direct access to markets; intermediaries receiving unfair prices for goods; quality control; enough demand to keep women in work
(1) Asociación de Productores Agropecuarios ; (2) Guayacondo	Guayacondo , Ayacucho province	(1) Association of women farmers + (2) loose group of micro entrepreneurs	Guinea pig (cuy) farming	Guinea pigs; technical assistance; food security program	communities are self-sustaining, supporting the high demand for guinea pig in the Ayachuco region

Overview of Peruvian Communities (Cont.)					
Community	Location	Make-Up	Main Activity	Assets	Gaps/Issues
Manosunidas	Tocos, Ayacucho province	Association of approx 20 women artisans	Handicraft	Handicraft products; website	No direct access to markets; work with intermediaries receiving unfair prices for goods; enough demand to keep women in work
Hilos & Colores Association	Samana, Socos district of Ayacucho province	Association of approx 100 women artisans spread over several communities	Handicraft	Extensive network of artisans; access to markets; use of ICT, website	Climate change; enough demand to keep women in work
Organización de Transformadores de Kiwicha Señor de Huanca San Salvador.	San Salvador, Cusco-Puno Corridor	Initially 14 women, now 4 women active in the association	Agriculture - Kiwicha biscuits	Technical machinery and know-how; land to grow kiwicha grain	lack core business skills such as accounting and marketing to expand; competition of larger companies.
Organización de Turismo Rural Comunitario de Raqchi	Raqchi, Cusco-Puno Corridor	13 families in the Rajchi association	eco-tourism (turismo vivencial)	Homes with bathrooms, kitchens, guest rooms; Internet cafe	Power & hot water issues; no Internet signal;
Sumaq Marka	Marangani (Sicuaní), Cusco-Puno Corridor	18 families in Guinea Pig Association	Agriculture - Guinea pig (cuy) farming	Guinea pigs; technical assistance; strong reputation	No access to the Internet or wider market opportunities. Lack market research and marketing knowledge

Overview of Peruvian Communities (Cont.)					
Community	Location	Make-Up	Main Activity	Assets	Gaps/Issues
Asociación de Productores APROLAC	San Pedro, Cusco-Puno Corridor	A group of 16 families started off in 2003. Today there are 5 families involved..	Agriculture - Yogurt production	low tech knowledge of yogurt production, local market and fairs access	Low capacity/manpower; no refrigeration; need advanced technology; slow Internet preventing market exploration, marketing and virtual technology transfer.
Suri Andino – Asociación de Artesanos	Puno, Cusco-Puno Corridor	The group started in 2007 with 100 women, 15 women are active members today.	Handicraft	Extensive network of artisans; access to markets; use of ICT	Quality control, lack of marketing skills, spreading management responsibility, succession planning
APWINC training program	Tacna	individual women entrepreneurs	service sector (tourism, marketing) + various agricultural, food and handicraft products	ICT and e-biz training	Low level ICT knowledge; lack of education opps; access to markets and marketing & export knowledge

Since no in-depth analysis took place in any of the above Peruvian communities, the outcomes of the visits are discussed by region in light of the assistance received by these communities.

Ayacucho region

Most of the communities visited in the Ayacucho region are, or were, part of an integrated program for women who are victims of violence. Administered by the MIMDES Program

Nacional contra la Violencia familiar y Sexual in collaboration with CTB, Belgian Development Agency. Phase 1 of the program started in 2005 in 4 of the 11 provinces of Ayacucho with violence prevention, awareness raising, training of social workers and police, fostering collaboration between prevention agencies, and supporting the pathway from violence to entrepreneurship. It is the latter component that was the focus in Ayacucho.

The handicraft businesses and associations that have large membership (100+ women), strong and young leadership, such as Sumaq Qara and Hilos & Colores, appear to be flourishing even after support from the CTB program has ceased -- Phase 2 of the program which extends to all 11 provinces of Ayacucho no longer has an entrepreneurship component -- with a large network of affiliated women artisans and good direct networks and linkages into the (global) market place. The latter communities use ICT to communicate with their clients and market their product. Interview data indicates that life has changed dramatically for the women who work with these communities. Earning their own money contributes to family income, builds confidence and makes the women less dependent on their husband, all of which contributes to reducing violence. A large percentage of the women workers are abandoned single mothers for which income is crucial to feed their children and send them to school.

Smaller handicraft associations with around 20 members, such as Manos Unidas and Asocacion Carmin 11 de Junio, appear to fare less well. The make-up of these communities in itself indicates that there is no critical mass and ad hoc production ability. While these associations received initial technical assistance from CTB, they are no longer receiving external help, have no direct access to markets or marketing knowledge and rely on intermediaries to offset their product. They mainly communicate via mobile phone and while they may have a website, ICT is not used for client interaction, marketing or to explore business opportunities. The main issue for all handicraft associations is the huge responsibility to keep the women in work.

The agricultural guinea pigs associations in this area, the Asociación de Productores Agropecuarios; and families in Guayacondo, who are not organised as an association but work closely together for food security, sanitation and health of the entire community, are well on the way to being self-sustaining communities. Following technical assistance from

CTB and Agro Rural, they have a steady market to offset their production of guinea pigs (cuyes) in the Ayachucho area. Since no direct contact took place in these communities, there is no interview data on the degree of change for the women, their families and communities since they started contributing to family income.

Cusco–Puno Corridor

The agricultural Organización de Transformadores de Kiwicha Señor de Huanca in San Salvador has been assisted by a capacity building grant from Agro Rural. The organisation initially attracted 14 women, but not all were able/willing to contribute 10% of their own money to the project grant and now 4 women are active in the association. Local government has helped to improve the capacity of these women in terms of infrastructure and equipment as well as how to use the machinery. The women produce 2200 packages of kiwicha biscuits per week for the local and regional market. They make enough money to pay off their debts but do not make a profit. To date they have been using their own land to grow kiwiche grain for the production of the cookies but if they want to expand into the wholesale market for which they need to increase production, purchase grain and compete with larger commercial kiwicha biscuit producers. They lack core business skills in accounting, ICT and marketing.

The agricultural Sumaq Marka Guinea Pig Association in Marangani (Sicuni) is organised as an association. Following technical assistance from agro rural, they have a secure market to offset their production of guinea pigs (cuyes) in the Cusco area and are self-sustaining community. With both males and females involved in the work, there is no need to go elsewhere to find work and the men and women can stay in town. Since they got assistance, life has improved every year in terms of better cash flow and access to market. They practice technology transfer with other groups but lack market research, ICT and marketing knowledge to explore wider opportunities.

The agricultural Asociacion de Productores Arolac in San Pedro consists of 16 families started off in this dairy association in 2003. Today there are 5 families involved. The women all have other jobs such as teachers and politicians so they have low capacity/manpower, but manage to produce yogurt on a daily basis. It is a low tech labour intensive process taking 3-4 hours. The product is sold in the local market and at fairs.

Since they do not have refrigeration the product can only be sold in the local market place. They would like to expand to include the Arequipa market but lack advanced production knowledge. There is either no signal or very slow Internet which prevents them from exploring markets, undertake marketing and explore technology transfer.

The Organización de Turismo Rural Comunitario de Rajchi is an eco-tourism association of Raqchi¹³ families providing 'tourismo vivencial', a rural eco-tourism experience with a cultural identity. The association was assisted with the development of the homes, building kitchens and bathrooms and furnishing guest rooms.. Rajchi is of interest to tourists, which comes from a variety of different countries, as there is an archeological site at the village. The women also sell pottery – different families have different unique designs. There are other eco-tourism spots throughout the Cusco-Puno corridor and they rely on Cusco and Puno based agents to book guests. An Internet café was established in Raqchi, but the women lack ICT and marketing skills and do not use it for tourist bookings. The Internet is mostly used by the children, although the signal is often down. There is strong social cohesion and life for the community has improved considerably economically. As a result, their diet and nutrition has improved, and with it the health of the community. The women are able to afford school supplies, tertiary schooling and a professional future for their children. There is room for further reduction of their footprint which will enhance the tourism experience, such as adding solar panels to generate power and hot water.

The Suri Andino Asociación de Artesanos in Puno started in 2007 with 100 interested women but only 15 women are active in the association today. They make hats, gloves, jumpers, etc. They received technical assistance from Agro Rural with raw materials, training and marketing (attending fairs). They experienced many problems at first working out a business plan, a bank account, bill of sale or quality control. The big break came when they got a large 1000 finger piece order from Britt. Although they did not have the internal capacity, the leader went out to other artesanos organisations and sub-contracted the order. They also got an order from Switzerland and have continued to export to these clients. Today the association collaborates with 8 other artisan communities, has a website, communicates via email and transfers knowledge to individual women entrepreneurs and other associations. The main issues are quality control, lack of marketing skills, spreading management responsibilities (others in the association being able to take on association responsibilities) and succession planning.

Tacna

The independent women entrepreneurs (some of which were part of an association) surveyed during the APWINC training course in ICT and e-business held in early December 2010 generally displayed little technology knowledge, a lack of marketing skills and access to markets. They also cited a lack of access to training in these areas.

Summary

In summarising the findings from the Peruvian communities and placing these results within the five capitals framework, it may be concluded that (women in) rural Peruvian communities have:

- (1) Restricted natural capital since landholdings are fragmented into small plots as part equalitarian inheritance and gender reform. Number of plots owned, land quality and access to inputs all impact on capital;
- (2) Ample human capital in terms of manpower, farming and indigenous crafts knowledge, but limited access to current market information and advanced technologies, lacking business, ICT (access and) knowledge economy skills;
- (3) Strong social capital and cohesion within cooperative structures and communities, but few network links into the wider marketplace;
- (4) A shortage of manufactured capital in terms of infrastructure/utilities that contribute to economic, social and environmental wellbeing; and
- (5) A shortage of financial capital or savings to support or trade the other capitals.

Again it was found that communities that are organised into associations are more sustainable than when women entrepreneurs go it alone. Where collective action and community capital existed, the study found increased productivity, social status and female empowerment. In addition, where land is ownership is outright or shared, women are more empowered economically and socially. Land ownership also positively impacts on women's access to credit and business development.

Literacy levels are relatively high in rural Peru, but despite the fact that Agro Rural has installed 12 telecentres in the Cusco-Puno Corridor, the study found a reluctance to use ICT and the Internet, particularly by more mature women entrepreneurs. This is partially due to the poor infrastructure (lack of signal for Internet use), and partially due to fear of technology and lack of training. However, the use of mobile technology is ubiquitous. Although no data was obtained pertaining to the use of services offered by the telecentres as a sub-component of rural development, the knowledge brokering model itself is of interest as it offers integrated and decentralised information across telecentres as well as access to video-conferencing.

A noteworthy social enterprise model observed in Ayacucho is the Hilos & Colores Association, where profits go back into the association and are used to improve conditions within the communities involved in the association.

Bangladesh-Peru comparison

In comparing the findings in both countries, and particularly comparing the five capitals in both developing economies, there are distinct similarities in the make-up of rural communities. Both have achieved progress towards becoming prosperous economies and a better society. Both have many assets, but wealth tends to be centralised in the capital cities of Dhaka and Lima with rural market failure, poverty, and in many cases extreme poverty, not being addressed effectively. This is partially due to extensive informal economies operating in weak enabling environments. There is limited, and often disruptive rural infrastructure, unreliable communication channels, inadequate electricity, water, transport, and embedded corruption in market mechanisms and finance systems. For example, the lack of telecommunication in rural areas results in communities finding it difficult to get their products to the market, or secure a competitive price for their goods, resulting in large parts of both societies being excluded from the progress path.

Both Bangladesh and Peru are conservative economies with an embedded macho culture and traditional concepts around the role of women, which creates challenges for the empowerment of women. Women's labour, time and flexibility are much more constrained than is the case for the men as they must balance simultaneous competing care giver and business tasks within a limited timeframe. One of the main issues in both countries is the

lack of continuous work. Market failure, geographic and climate change factors, seasonal and other considerations, including distance to key economic and social services such as markets, schools, and health centres all impact on the viability of their business.

As indicated earlier, in both economies cooperatives or associations generate strong social cohesion and support, providing opportunities to pool resources and share the economic and social burdens. Collective action also provides opportunities to improve local/regional governance in terms of involvement and decision making by women and creating improved responsiveness on the local level. When collective action is supported by social enterprise and shared value creation, more holistic and sustainable development opportunities arise.

In both economies ICT for development -- and in particular the use of the Internet and e-business as used in more developed economies -- remains in its infancy, which can be ascribed to the poor rural infrastructure, prohibitive cost, little understanding of the potential of ICT and a lack of ICT-enabled business training opportunities. However, the reach of mobile phones by far outnumbers any other communication device. Mobile technology use is pervasive and growing rapidly in both economies, driving the (informal) economy and providing opportunities to use mobile devices for tasks such as information/data collection and retrieval; supply chain communication; transaction and loan payments; business, viral and social networking; technology transfer; accessing health care and learning. As such, mobile technology is a powerful enabler for women's empowerment.

In terms of best practice, Peru's comprehensive rural ICT-enabled technology and knowledge diffusion system (as presented by Agro Rural), which includes face-to-face knowledge brokering, Internet cabins, radio and cellular phone information distribution merits further investigation in terms of effectiveness and potential knowledge transfer to Bangladesh. The social enterprise model practiced in northern Bangladesh merits further investigation in terms of effectiveness and potential adoption in Peru.

Future Directions

This study started in Bangladesh where, in collaboration with a local NGO and community stakeholders, an in-depth gap analysis was undertaken in two rural agricultural communities. The analysis identified information/knowledge gaps and looked at ICT-enabled resource management and value chain opportunities to increase community income. The study continued in Peru, where a number of rural agricultural and handicraft enterprises/associations were visited and interviewed. Data generated in the two developing economies were analysed and compared for future intervention purposes.

To date, the study has found strong links between gender empowerment and collective action. In particular, communities that are organised into associations or cooperatives are more resilient than when women entrepreneurs go it alone. Where collective action exists, there is increased agricultural productivity, strong community support, and improved social status for women. Lessening dependency on a partner increases women's decision making capacity inside the family, enhances family relations, contributes to a reduction in violence and generally improves nutrition, health and education conditions for the whole community. In other words, creating opportunities to generate income opens up a new era of economical and social empowerment. The study found that the use of mobile technologies and local knowledge systems/brokers enhances social capital and viral networking is integral to access markets, regional collaboration, technology transfer and knowledge exchange. There are business, research and policy implications emanating from this study.

Recommendations

The resilience of rural communities is closely intertwined with infrastructure, economic, socio-cultural, environmental and governance variables. The study highlights the need to

- 1. Improve and leverage the business enabling environment, including (ICT) infrastructure to create steady employment and entrepreneurship opportunities for rural women.*
- 2. Strengthen economic clusters, associations, cooperatives and networks to enhance the value chain, diversification and access to markets;*

3. *Strengthen knowledge economy skills to assist women-led enterprises; and*
4. *Strengthen public-public and public-private partnerships for coordinated gender-sensitive approaches and knowledge transfer.*

Below, recommendations are outlined in more detail; opportunities are highlighted under each recommendation.

1. *Improve and leverage business enabling environment, including (ICT) infrastructure to create steady employment and entrepreneurship opportunities for rural women.*

The key challenges for improvement include better infrastructure – including transport, energy and better governance -- integration of the informal economy, reduction of corruption and the poverty cycle, and the adoption of value added, diversification and green business models that mitigate climate change. In the first instance this requires a coordinated approach by establishing public-public partnerships among government departments that govern infrastructure, trade, ICT, women and social development. Coordinated approaches can be augmented by public-private partnerships.

When a social enterprise invests in the women of a community or region and is aware of the local (employment) needs, new opportunities arise for product differentiation and new markets, including regional markets. These opportunities are not static; they change constantly as technology evolves, economies develop, and societal priorities shift (Porter & Kramer, 2011). The Bangladesh example shows that the company actively pursues new products and markets to keep the women in work, a win-win for both the business and the community. Besides, business will often be far more effective than governments and nonprofits to access markets and create effective marketing campaigns.

Partnerships can be established on a number of levels, e.g. range from involvement of corporates to medium and small enterprises, among women's business associations and export bodies. Social enterprise linkages and (domestic and international) partnerships can be encouraged, promoted (and regulated) by government in terms of addressing women's most pressing needs. By partnering with a community, the social enterprise directly supports employment/entrepreneurship opportunities for women; but can, for example, also support components of child and other social care to alleviate women's

domestic work burden and improve their ability to generate income. Employment and performance standards, gender indicators and measurable social development goals can be set without being too prescriptive on methods. This motivates and enables continual improvement beyond current targets and allows for formative and summative evaluation.

Partnerships can also be established for a particular purpose, e.g., with telecommunication enterprises to help strengthen ICT and mobile infrastructure and offer applications that allow access to timely information, such as weather, crop-pricing and agricultural advice (for farmers) and fairs, market and trade opportunities for handicraft associations. The latter should build on existing ICT and knowledge diffusion system in regions (such as in the Cusco-Puno Corridor as presented by Agro Rural), which would benefit highly from reliable broadband infrastructure, explore the adoption of a gender-sensitive usage and knowledge diffusion strategy and piloted for the delivery of targeted and interactive business information, advice and skilling for rural women entrepreneurs.

2. Strengthen economic clusters, associations, cooperatives and networks to enhance the value chain, diversification and access to markets.

While government and NGO assistance provide great value, when development programs and support ends, many associations suffer from a lack of continuity and critical mass. Especially in these cases the size and remoteness of the producers remains an issue and there is great need to strengthen linkages, networks and trading partnerships.

The competitiveness of regions depends on the productivity in the use of human, capital and natural resources, which in many cases do not come together in rural communities. Research supports the congruence between societal progress and productivity in the value chain. By performing gender-sensitive value chain analysis, a sound business environment can be created that encompass more sophisticated production clusters. Value chains encompass the full range of activities and services required to bring a product or service from its conception to its end use. Value chains include input suppliers, producers, processors and buyers; a range of technical, business and financial service providers; and the final markets into which a product or service is sold, whether local, national, regional or global (Porter, 1985). Value chain analysis describes the activities within and around an

organisation, which is inevitably affected by issues such as access to inputs and resources, determining the competitive strength of the organisation.

Understanding how women – and in particular women's associations and/or cooperatives can participate and become more competitive in the marketplace – requires both systemic and systematic analysis of the factors affecting the performance of an association inside the value chain and the relationships among all its actors. Understanding the interplay between actors and managing the linkages (or information flows) between these activities creates economic potential and strengthens networks. A stakeholder-driven approach that incorporates the five capitals allows for targeted intervention, value adding, diversification and investment. Value chain analyses triggers fundamental innovation, economic diversification and technology transfer which in turn contributes to community resilience. Exposing gaps and inefficiencies in the supply chain encourages local cluster and network development, supporting local capability through a new geographic concentration of service providers, logistical infrastructure, education institutions, etc.

Encouraging face-to-face meetings, knowledge and resource sharing among associations or cooperatives – as is for example the case between two Bangladeshi communities who now share organic farm practices and access to the seed bank builds strong social capital and expands business networks. Complementary ICT-enabled solutions can be implemented to support network building, such as setting up a virtual regional network space for participating SMEs and associations – including Indigenous women and associations – to share information and knowledge, best practice examples (such as the Suri Andino Asociación de Artesanos in Puno which has a good quality control and outsourcing model) and business networking purposes. Such virtual networks can, in turn, link to established organisations such as PromPeru and ComexPeru which links into global trading platforms such as Alibaba.com or enterprises can link independently to these platforms.

3. Strengthen knowledge economy skills to assist women-led enterprises

The importance of empowering women to take a more productive role in today's economy requires understanding and utilising women's skills and talents more effectively. Strengthening the capabilities of rural people to take advantage of opportunities in the

knowledge economy is essential. The digital revolution requires a new set of skills, including basic knowledge of how to use a computer and computer programs before even going online. Basic knowledge is gradually replaced by a better understanding and more efficient use of the medium. Where computer access is lacking, computer skills may need to be substituted by mobile technology skills.

But knowledge economy participation requires more than technology knowledge. Within the lifelong learning framework, there is a growing need to provide women in business, and all members of the workforce, with a comprehensive set of so-called 'meta-competencies', a combination life/career management. These skills also include the ability to respond to change; the capability to identify career and learning opportunities; problem solving, initiative and enterprise skills; teamwork, learning and self-management skills; and communication, (e)marketing skills, including competencies such as collaboration, interpersonal skills and interactive communication. The focus should be on practical skills, market trends, technology and knowledge transfer.

There is a vastly underserved education market of rural entrepreneurs. It is imperative that skilling is targeted to the business needs of women, many of which are beyond start-up and which may, for example, be different for indigenous women. To that end, it is useful to include women in the design of skilling as it both empowers them and creates stewardship of the skills. The latter is also useful for future knowledge transfer. Given that access to technology is not ubiquitous, skills delivery needs to be designed in multi-modal format, ranging from face-to-face to online to video-conferencing and mobile-based delivery. It is also imperative to build on evidence-based skilling models and programs as to not reinvent the wheel. The latter can be achieved by creating partnerships with existing programs and educational institutions that understand the essence of knowledge economy skilling and can deliver via multiple platforms.

4. Strengthen public-public and public-private partnerships for coordinated gender-sensitive approaches and knowledge transfer.

The future of regions is strongly dependent on a national action plan that enables and supports public-public and public-private partnerships. Public-public partnerships are necessary to enhance the business enabling environment, improve overall infrastructure

and reduce bias and corruption. This calls for a coordinated approach across portfolios. Even with coordinated and substantial interventions, it is not feasible for government alone to address market failure, provide subsidies or finance welfare programs and it is hence recommended that public-private partnerships (PPPs) are pursued to help address issues, create business opportunities and resilient communities. Investment by and committed participation of the private sector does require a sound business environment.

Gender awareness should be integral to all public-public and public-private partnerships, programs, budgets and processes in order to avoid retrogressive gender stereotyping. Technical oversight for gender mainstreaming, action-based methodologies, formative and summative evaluation, universal sex-disaggregated measurement and performance-reporting systems should underpin PPPs, with government investing in infrastructure for collecting reliable benchmarking data on women’s empowerment.

Including gender-specific and gender-transformative components in rural development projects across portfolios will contribute to gender empowerment, a higher rate of female employment, female entrepreneurship and resilient rural communities.

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APPENDIX 1

Questions for the women entrepreneurs in a Ayacucho

1. What is the name of your group and how many members does it have?
2. Are you part of a cooperative or consortium?
 - a. If yes, please explain the relationship and benefits of being part of a consortium
 - b. If no, why not?
3. What products do you make and in what quantity (pieces per month/year)?
4. How and where do you sell your products? Please explain the supply chain process:
 - a. If direct, where is the market and how do you access the market?
 - b. If you sell indirect, via an intermediary, what is the process? Are you happy with the process and the prices you receive?
5. Do you use ICT for any part of selling or marketing?
 - a. If yes, how -- Internet, cell phone?
 - b. If no, how would you like to use ICT?
 - c. What is the (ICT) literacy rate in the group?
6. How has being an entrepreneur changed your life? Life for your family? Life for your community/region?
7. What are your expectations for the future? What skills do you need to fulfil these expectations?
8. What can you recommend to other women entrepreneurs to reach what you have achieved?

Thank you for taking the time to speak with me. Do you have any other comments or questions for me?

APPENDIX 2

Preguntas para las mujeres emprendedoras

1. Cuál es el nombre de su grupo y cuántos mujeres o miembros la integran?
2. Tu eres parte de una cooperativa o consorcio?
 - a. Si es "sí", por favor explíqueme las relaciones establecidas al interior y los beneficios de ser parte de este consorcio o cooperativa?
 - b. Si es "no", por qué no pertenece a ellas?
3. Qué tipo de productos hace y en qué cantidad (por mes /año)?
4. Cómo y dónde vende sus productos? Explíqueme el proceso de producción y distribución de sus productos:
 - a. Si es directo, dígame dónde está ese Mercado, y cómo accede usted a ese mercado?
 - b. Si vende indirectamente, a través de un intermediario, dígame cómo es ese proceso? Esta usted satisfecho con este proceso y con los precios de venta que usted recibe?
5. Usted usa tecnología de información y comunicación en alguna parte de la venta o la publicidad de sus productos?
 - a. Si es "sí", diga cómo: Internet, llamadas telefónicas, celular?
 - b. Si es "no", cómo le gustaría usar alguna tecnología de la información y comunicación?
 - c. Cuál es el nivel de conocimiento de tecnología de la comunicación e información en el grupo?
6. Cómo ha cambiado su vida el hecho de ser empresaria? Cómo ha cambiado su vida familiar? Cómo fue el cambio en su comunidad /región?
7. Qué es lo que espera, que expectativas tiene hacia el futuro? Qué habilidades necesita para alcanzar esas expectativas planteadas?
8. Qué puedes recomendar a otras mujeres para que alcancen lo que tú has logrado?

Gracias por el tiempo brindado para hablar conmigo. Tendría algún otro comentario o pregunta para realizarme?