

Rural Livelihoods and e-Commerce:
a case study of artisans in Guerrero, Mexico

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Table of Contents

List of Tables and Figures	3
Abbreviations.....	4
Abstract	5
Chapter 1. Introduction	6
<i>Research questions</i>	<i>13</i>
Chapter 2. Literature Review.....	16
<i>Rural Livelihoods</i>	<i>18</i>
<i>Livelihoods framework</i>	<i>22</i>
<i>Microenterprise and livelihoods.....</i>	<i>32</i>
<i>Microenterprise, livelihoods and e-commerce</i>	<i>35</i>
<i>Connecting ICT, e-commerce and livelihoods framework.....</i>	<i>41</i>
Chapter 3. Mexico Background	44
<i>Structures, institutions and processes.....</i>	<i>48</i>
<i>Rural livelihoods and microenterprise in Mexico</i>	<i>51</i>
<i>SMEs in Mexico: Assets and Resources</i>	<i>52</i>
<i>Livelihood strategies in Mexico.....</i>	<i>56</i>
<i>Risks and vulnerabilities.....</i>	<i>57</i>
Chapter 4. Methodology	59
Chapter 5. Case Study & Data Presentation.....	66
<i>The Region: Taxco Municipality</i>	<i>67</i>
<i>Microenterprises in the Case Study.....</i>	<i>72</i>
<i>Comparing microenterprises</i>	<i>85</i>
<i>Reaching the micro-level.....</i>	<i>87</i>
Chapter 6. From Coyotes to Market?.....	101
Chapter 7. Conclusion.....	119
<i>Conclusion.....</i>	<i>125</i>
Appendix	127
<i>Key Informant Interview Guide</i>	<i>127</i>
<i>Focus Groups and Individual Artisan Interviews</i>	<i>128</i>

List of Tables and Figures

Table 1.	Municipality demographics	67
Table 2.	Taxco Municipality Employment Statistics	68
Table 3.	Microenterprises in Taxco, a comparison of ARTCAMP and UPA	86
Table 4.	Artisans' ICT Usage	96
Table 5.	Assets and ICTs in Taxco	105
Figure 1.	Livelihoods Framework	23
Figure 2.	Progression of ICT Adoption	97

Abbreviations

AMECE	Asociación Mexicana de Estándares para el Comercio Electrónico
AMIPCI	Asociación Mexicana de Internet
AODDM	Artisan owned direct distribution model
ARTCAMP	Artesanas Campesinas
B2B	Business to business e-commerce
B2C	Business to consumer e-commerce
BDC	Business development centres
CIDA	Canadian International Development Agency (currently DFATD)
CONEVAL	Consejo Nacional de Evaluación de la Política de Desarrollo Social
DFAIT	Department of Foreign Affairs and International Trade (Canada)
DFID	Department for International Development (UK)
ICT	Information and communication technologies
IDS	Institute of Development Studies, University of Sussex
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IMF	International Monetary Fund
INEGI	Instituto Nacional de Estadística y Geografía (Mexico)
MSE	Micro and small enterprise
NAFTA	North American Free Trade Agreement
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
RNFE	Rural non-farm economy
RNFL	Rural non-farm livelihoods
SECOFI	Secretaria de Economía (Mexico)
SEDESOL	Secretaría de Desarrollo Social (Mexico)
SLA	Sustainable Livelihoods Approach
SME	Small and medium enterprises
SMME	Small, medium and microenterprises
UNCTAD	United Nations Conference on Trade and Development
UNDP	United National Development Program
UPA	Union Progresista Artesanal

Abstract

Rural Livelihoods and e-Commerce: a case study of artisans in Guerrero, Mexico

by

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E-commerce is repeatedly recommended as a means of poverty reduction for rural artisans. However, presenting e-commerce as easily attainable ignores the many barriers and trivializes the value that less complex ICTs offer. By looking at microenterprises in the silver jewellery industry in Guerrero, Mexico, this research examines how incorporating ICTs within business strategies affects livelihood outcomes. Specifically, I examine e-commerce as an alternative to traditional means of selling wares for rural artisans and as a tool to improve market access.

In applying the livelihoods framework to look at the relationship between microenterprises, ICTs and e-commerce, it was found that despite available infrastructure; e-commerce is not a realistic option in supporting the livelihoods of artisans. The barriers required to overcome issues related to market access, human capital deficiencies and insufficient government support structures remain too great for most to overcome.

November 20, 2013.

Chapter 1. Introduction

Rural producers in developing countries, encouraged by NGOs¹, international aid agencies² and financial institutions like the World Bank have recently begun to use information and communication technologies (ICTs) in an effort to improve livelihoods by reaching larger markets to increase sales, reduce costs associated with traditional retail and increase efficiency in production, transactions and distribution. Most commonly, producers are encouraged to engage in e-commerce initiatives, allowing them to bypass middlemen and reach consumers directly. While e-commerce continues to be suggested

¹ For example, Peoplink provides an e-commerce platform through open entry storefronts for artisans; Aid to Artisans provides a Market Readiness Program which teaches Internet marketing; SERRV International and Ten Thousand Villages sell crafts through their online stores while offering “fair pricing” and partial payment upon order submission

² For further evidence on aid agencies’ support for ICTs and e-commerce see CIDA 2002, UNDP 2007, UNCTAD E-commerce and Development Report 2001-2004

as a means to improve livelihoods, it is far from a strict equation with success and as the case study will illustrate, a means limited in quantifiable success and wrought by insurmountable barriers. As NGOs (Salcedo 2013) and agencies (CIDA 2002) continue to tout e-commerce as *the* way for rural producers to build sustainable livelihoods, it is evident that further research is required on how ICTs used by artisan communities to produce, market and sell wares, affect their livelihoods.

International development, in both theory and practice, has a tendency to concentrate focus at either the micro or macro level, rarely linking the two. In the case of rural artisans accessing a global market, connections between the micro and macro become ever more important at the micro-level. There are few approaches which aim to move beyond this polarized and disconnected approach. The livelihoods approach works to bridge the gap between the macro and micro by recommending local level lessons to inform high level policies and programming. It is suggested that this will allow the people whom the policies affect to influence policy-making, which in turn should result in more effective policies and programs – a dubious result to reach in practice – particularly given the tendency to develop policies without representation by local-level actors.

As a case study, this research projected is rooted in poverty reduction, and microenterprises and small businesses are key to poverty reduction (UNCTAD 2010). The UNDP (2007) further suggests “SMEs are the driver of economic growth and innovation... Contrary to multinational corporations, the growth of SMEs directly benefits the country because most SMEs are domestic firms” (3). Poverty reduction and

economic growth is suggested to become a cyclical loop whereas poverty is reduced through microenterprise and the economy grows as microenterprise uptake increases (3).

Microenterprise can be looked at as a livelihood strategy. Chambers and Conway provide a succinct definition of the term ‘livelihood’ by noting that it, “comprises the capabilities, assets (including both material and social resources) and activities required for a means for a living” (1992, 6). While, a livelihood strategy refers to the activities used to generate income or otherwise support survival at the household level – in this case one of the strategies that the study participants employ is to through microenterprise.

As a business strategy, many artisan microenterprises participate in the global market. Globalization has created an environment that simultaneously acts as both a threat and benefit to rural artisans. Commonly defined as increased interconnectedness in production, communication and technologies internationally, globalization has lessened the traditional market challenges created by international boundaries and perceived distance through faster travel and increasingly instant communication. These changes allow microenterprises faster access to information, the opportunity for direct access to consumers around the world, and ease in global distribution, among other benefits. Conversely, the same factors that can support microenterprises also contribute to increased competition as their markets expand.

Globalization is also often linked to international financial institutions’ efforts to create a free market. The concept of globalization, when linked to international financial institutions, becomes entangled in a highly polarized political philosophy (neoliberalism) that espouses economic reform, structural adjustment and free market-led growth. One

particular concern linked to the neoliberal agenda that has had a direct impact on rural artisans is the influx of low-cost, mass-produced items subsidized through various means by countries like India and China. Increased competition and low cost imports can be detrimental to even the most stable rural enterprises. International markets have high demands related to design, production, product quality and speed of delivery. The United Nations Conference on Trade and Development noted that developing countries have many obstacles to overcome including those related to infrastructure, capital, market access and government policies (UNCTAD 2004).

This thesis focuses on artisans working in the silver jewellery industry in rural Guerrero, Mexico and their use of microenterprise as a strategy for poverty reduction, with a focus on e-commerce and ICTs as tools to increase productivity, sales and to facilitate marketing. Investigating the relationship between livelihoods, microenterprise and e-commerce will provide the basis to understand when artisans can successfully incorporate e-commerce into livelihood activities. Additionally, this thesis aims to address whether e-commerce, an extremely complex and technologically advanced method, is a viable alternative for selling wares for rural artisans, and to understand the relationships between rural livelihoods and market access through e-commerce.

Given the interdisciplinary nature of this thesis, several theoretical constructs will be used to provide a background for understanding the data. These include modernization through rural development, neoliberalism through market liberalization and enterprise, and human development in culture and livelihoods from micro-level perspectives. In order to develop a holistic yet flexible structure for analysis, a mixed methods approach

will be used through adaptation of the livelihoods approach and framework. A complete outline of the theoretical framework is included in the literature review (Chapter 2) and the methodology (Chapter 4).

A livelihoods approach to development is based on a framework and set of guiding principles that aim to create a better understanding of the complexities of poverty by illustrating connections between employment activities and structures within which the individual operates (IFAD 2013). The framework has been adapted by various authors but generally includes the following elements: a description of capitals possessed by the group studied; vulnerabilities to trends, shocks and other seasonalities; policies, institutions and processes that influence the group and upon which they have influence; livelihood strategies; and finally, the overall outcome of the studied livelihood(s) which takes into account these four elements. The guiding principles of the livelihoods approach are that it is people-centred, holistic and dynamic. It is an assets-based approach that builds on strengths while also identifying challenges (vulnerabilities). The livelihoods approach is not only a micro-level approach, looking at micro-macro linkages as well. The approach aims to encourage broad partnerships and to ensure environmental and general livelihood sustainability (IFAD 2013).

Livelihoods literature generally focuses on a participatory framework that is actively applied in development programming rather than as a theoretical framework for development research. However, recent research has begun to incorporate the framework as a theoretical means as well (Cahn 2006; Heeks and Morgan 2004; Duncombe and Molla 2006).

Given its holistic, localized, community-focused base; the sustainable livelihoods approach provides an excellent framework for examining the diverse nature of poverty. The focus on sustainability aims to create on-going positive livelihood outcomes which don't negatively impact future generations, while providing a snapshot at the micro-level through a focus on people and the activities that they employ to make a living. Macro-level issues are incorporated with the specific purpose of looking at their effect on the individual, household and community. Looking at micro-realities within these contexts helps to provide a greater understanding of the complexities of poverty (Carney 2003, 21).

It is widely acknowledged that small enterprises positively contribute to employment, economic growth and in turn, development. It is also believed that these enterprises can help to distribute the benefits of economic growth and reduce distribution inequalities (UNCTAD 2005). Microenterprises are prolific in Latin America, offering an appropriate focus for a livelihoods case study.

Small and medium and microenterprises (SMMEs) are defined in a variety ways. Organizational structure, formal market involvement, business registration and number of employees may be included in defining parameters. Strict definitions in researching enterprises provide narrow perspectives, which limit understanding of fluctuations and complexities that may exist. The International Labour Organization (ILO) provides a broad definition of small and medium sized enterprises SMEs as including "all types of economic activity and all types of ... SMEs irrespective of the type of ownership" (ILO 1999). Microenterprises are further defined by having a maximum size of 10 employees,

which is also consistent with the Mexican definition of microenterprise in the manufacturing sector (ILO 1999, INEGI 2007).

As a case study, Mexico offers an interesting and unique context to the study of microenterprises, artisan production and e-commerce. Nearly half of Mexicans live in rural areas (INEGI 2007), which were traditionally agricultural. Over the past fifty years many small landholders throughout Latin America have been pushed out of farming by massive agribusinesses, fuelled in large part in the early 1990s by the Salinas government's privatization of the *ejido* (a traditional agricultural collective structure, protected in the constitution, where peasants are provided with parcels to cultivate). The Salinas government eliminated the constitutional right to *ejidos* which resulted in a catastrophic decline in the ability of small-landholders to sustain their livelihoods through agriculture. At the same time, trade barriers were eased as a result of NAFTA, creating a flood of imports of subsidized genetically-modified corn from the United States of America (USA). Non-farm livelihoods became increasingly important as a means to meet income needs in rural areas, as small landholders struggled to compete with highly subsidized high-tech corn imports and the rapid growth of transnational agribusinesses following the privatization of the *ejido*. While non-farm means of employment have always existed in rural areas, non-farm livelihoods have become more common in recent decades with the decline of small landholders. As agriculture declined, craft production, which has enjoyed a long tradition in Mexico, gained importance. In Taxco municipality, much of the shift away from agriculture over the past several decades has been a shift towards craft production in jewellery-making.

From an international development perspective, Mexico has followed many of the traditional development patterns, particularly regarding rural development. However, Latin America represents an idiosyncrasy in terms of rural development because of “the importance of off-farm activities in the livelihood system of the poor farmers. Handicrafts represent an important income generating activity” (IFAD 2004, 17). Recently the Mexican government has instituted one of the most complete ICT initiatives of any developing country. With a flourish of artisan activity in rural areas, rapidly developing ICT infrastructure and research mainly limited to the macro-level, it is important to study how these macro-level changes affect the people they are intended to support.

Research questions

This thesis incorporates a literature review and field research aimed at answering several questions. The primary thesis question is: *Does the incorporation of ICTs and e-commerce into rural microenterprises have the potential to positively affect rural livelihood outcomes?* This question illustrates the connection between microenterprise and e-commerce as strategies for livelihoods, and captures evolving arguments in livelihoods research.

In addressing the main research question, several other topics were also addressed related to ICT usage and tools. The research compiled looks at how artisans, households and communities use ICTs as a part of their livelihoods strategies as well as what ICT tools help artisans produce, market and sell their crafts. Additionally, the research

identifies barriers artisans face in using e-commerce. Looking at the effect of e-commerce on livelihoods will provide greater understanding of how e-commerce could be better promoted and implemented in future development projects.

Following an introduction to the area of research, including the overall research objectives and focused research questions, Chapter 2 reviews the literature on rural development and livelihoods with a brief section on microenterprise, ICTs and e-commerce. Background information on microenterprises and livelihoods in rural Mexico are included which highlight local livelihood approaches that differ from those used by the groups under study are outlined in Chapter 3. Livelihood structures, institutions and processes; assets and resources; strategies; the vulnerability context; and livelihood outcomes of individuals and cooperative groups are analyzed. Chapter 4 outlines the methodology used and the limitations of this research project. Chapter 5 begins with a presentation of the case studies, delineated by enterprise structure, from the villages of Taxco el Viejo and Tecapulco and the larger community of Taxco de Alarcon. A structured review of ICTs as used by artisans is included. Chapter 6 reviews the data as collected in each case study and provides reflections on and analysis of the livelihood systems of artisans. The final chapter reviews the data collected and discussion presented in the preceding section, suggesting areas for future research and consideration.

The study of rural artisans in Taxco, Mexico will provide interesting insights into the field of ICTs for ecommerce. The artisans have made substantial gains, initially encouraged by NGOs, to reach larger markets, reduce costs and increase efficiency. While ecommerce theoretically can assist in improving livelihoods, this is not necessarily

a given. The following research examines how ICTs used by artisan communities to produce, market and sell wares, affect their livelihoods.

Chapter 2. Literature Review

Latin America is ready for change in rural areas. Increasing rural activism aimed at socio-political reform is being driven by high rates of poverty, unemployment and landlessness. The rural poor are often unable to meet their own basic needs, left unsupported by national policies and shrinking social support systems which have been diminished by neoliberal regimes. A crossroads is evident with many opportunities for development approaches to focus on poverty reduction within the region.

Given the complex relationships between the state, market and institutions involved in supporting economic growth and social development, international development exists in a cross section involving theories of economics, social development, politics and history among others. Furthermore the interdisciplinary nature becomes even more evident in a study which combines craft, technology and business. Finding a theoretical means and methodology which can stretch across ideologies become imperative.

Development discussions for poverty reduction involving livelihoods have become increasingly common. The Sustainable Livelihoods Approach (SLA), an alternative form of development, embodies these discussions through theoretical and practical framework, offering important potential for development projects in Latin America. Additionally, the livelihoods approach offers flexibility in studying ICTs in rural microenterprises across sectors. What follows is a review of the SLA; its history, use, criticism and application in the context studying microenterprise and ICT.

This chapter begins by clarifying terminologies and continues with an outline of key theories in rural development important to sustainable livelihoods. A review of the relevant literature on sustainable livelihoods is presented that outlines the framework, strengths and critiques of livelihoods approaches to development. Finally, livelihoods are linked to microenterprise and e-commerce.

As a starting point, a clarification of definitions is required as the term ‘development’ remains ambiguous - despite being the driving concept in a global debate connected to theory, practice and ideology. While a variety of viewpoints exist, in this case the term development will be defined as “good change” as proposed by Chambers (1997). It is a process of moving into a better state or condition than formerly existed. At the macro-level, development is frequently defined from a neoliberal perspective which is measured by overall economic strength, a healthy market and democratic government which is also supportive of market and private enterprise. This definition of development doesn’t provide any perspective on equality within a country, economy or governance – which limits understanding on whether change is good. Poverty reduction must also be an integral part of development, which can then be measured against Chambers’ definition. As further suggested by Amartya Sen, one of the most important issues to include in Chambers’ definition is the “capability to function” (Sen 1999, 75). Development must go beyond looking at income measures to focus on a broader definition, more suited to the poor, which looks at well-being, capability and quality of life.

Hettne (1995) argues that the definitions of ‘development’ are varied because development discourse and action exists in theories, strategies and ideologies – a result of

the interdisciplinary field of study (Boateng et al. 2008). Given the interdisciplinary nature of both the field of study and this research project in particular, a succinct definition of development is helpful in clarifying strategies and to position terminology within the more focused discussion of rural development.

Rural Livelihoods

According to Ellis and Biggs (2001), the move towards discussing rural livelihoods as rural development in the 1990s marked a shift in development thinking. The rural livelihoods approach to rural development became actively supported by many significant development agencies including IFAD, DFID, AusAID, UNDP, EU, Oxfam, CARE and the World Bank. Arguments in support of rural livelihoods were based on the observation that rural poverty reduction had stalled since the early 1990s and the understanding that rural activities were not strictly agriculturally-based. Poverty reduction in rural development tends to focus on agricultural activities; however access to rural agricultural resources is limited and represents only a portion of rural activities. IFAD argues that global efforts to reduce poverty are ineffective without a substantial focus on rural areas (IFAD 2013). Additionally, landlessness generally forces inhabitants to seek alternatives to farming, most often within “processing and/or production of agricultural products, craftwork, and non-agricultural goods” (IFAD 2003a, 38).

By focusing on rural livelihoods, rural development initiatives offered a more holistic approach, encompassing all income-generating activities whether agriculturally based or not – an important departure that had not previously been considered in rural

development theories. The sustainable livelihoods approach (SLA) is often used interchangeably with the term rural livelihoods. However, the SLA is a much more specific approach to livelihoods that can be applied to both urban and rural areas, which will be examined in greater detail.

Muddling any discussion of rural livelihoods is the issue of inconsistent definitions. For the sake of clarity, the following definition of “livelihood” will be used: “a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base” (Chambers and Conway 1992, 6). Discussions of rural livelihoods are generally derived from a theoretical position based in economics which equates rural livelihoods with employment and income. It is an important note of concern when applying these methods to development programming, as ‘well-being’ is not best defined by income. For example, household expenses are not included in these measurements nor is income contrasted against cost of living.. ‘Well-being’ is an important measure to this study as the research will show. For instance, an income may be higher if an individual increases their working hours, however, an increase in hours worked could reduce their overall well-being in other areas.

Any discussion of rural livelihoods should be situated within the rural non-farm economy (RNFE). The RNFE includes all income generating activities for households in rural areas that are not agriculturally-based. In theoretical scope it includes discourses of

rural non-farm livelihoods and the SLA. There are several underlying basic principles for understanding the RNFE and its importance to rural development. By most estimates, 30-60% of income-generating activities in rural areas are non-farm activities (Ellis 1999; Ellis 1998; Reardon 1998), generally constituting trading and processing of agricultural and primary products with a smaller amount of manufacturing. Most of these activities are for the local rural economy. One of the principle foundations for understanding the RNFE is that growth of the RNFE depends on the vitality of the farm economy.

Development issues within the rural non-farm economy can be divided into areas of access and employment. Access, referring generally to market access, is influenced by elements like education, social capital, gender, ethnicity, credit, infrastructure, and information. According to IFAD, market access is “one reason [the poor] cannot improve their living standards is that they face difficulties in accessing markets” (2003b).

Issues of market access can be viewed “according to three dimensions: physical access to markets; structure of the markets; and producers lack of skills, information and organization” (IFAD 2003a, 9). This definition is helpful in providing three distinct groups of indicators for research on market access: physical access, human capacity and policy constraints. IFAD outlines main market access problem areas as falling within the following broader topics: awareness, organization, technology, production, productivity, financial resources, infrastructure, information and policy (IFAD 2004, 2). Market access can also be viewed through physical (proximity), political (their ability to influence terms of trade) and structural dimensions.

The RNFE offers an important link to poverty reduction for small-scale enterprises that require comparatively low capital, which allow households greater control over their livelihoods and the ability to participate in markets beyond those linked to agriculture. Determinants of rural non-farm employment can include agricultural development, natural resources, services and rural town development. The RNFE can assist in rural development by absorbing any surplus of rural agricultural labour, by reducing vulnerabilities of farm-based households through diversification and by providing alternatives to farming during seasonal or natural shocks (Davis and Bezemer 2004, 6-7). Additionally, the RNFE can also increase inequality as there is often only access to small-scale activities for the poor. However, poverty can be reduced elsewhere through the supply of primary products (Davis 2003).

It is also understood that as incomes rise, “rural households increase spending on such services as education, health, transport, cinemas, prepared foods, and transport faster than they do on local manufactured goods” (Haggblade 2007, 159). Small rural manufacturing activities, like artisanal production, remain vulnerable as local residents increase spending in other areas, while imports continue to offer cheaper alternatives. In many instances this trend pushes those involved in rural manufacturing activities to seek larger markets in other communities provincially, nationally or internationally.

Rural non-farm livelihoods (RNFL) refers to any activities outside of growing crops, fishing or forestry. They can take place on or off-farm but are not agriculturally based activities. Rural non-farm livelihoods fall within the scope of rural livelihoods and the SLA. The importance of studying this area lies in the fact that nearly half of rural

income generating activities are non-farm based and have been traditionally overlooked in rural development. Ellis (2000) argues that rural non-farm livelihoods strictly encompass the activities of the 40% of rural inhabitants not involved in agricultural activities, unfortunately, overlooking the multiple strategies that many rural inhabitants use in securing livelihoods including working both on and off-farm.

According to Davis (2003) there are two types of rural non-farm activities: small-scale activities that offer little capital, low productivity and low returns; and large scale activities. He believes that small-scale non-farm activities generally do not offer better returns than farming and that larger-scale non-farm activities frequently offer higher returns than farming. However, as it is small-scale non-farm activities that can be accessed by the landless and poor, the RNFE is an essential component in rural poverty reduction. Davis warns that the RNFE may actually increase inequality as the poor will have fewer resources to invest in larger scale non-farm ventures. However, the creation of jobs through these larger scale ventures could help to distribute benefits. Unfortunately, private business models for large-scale farm and non-farm ventures rarely offer higher wages to employees, therefore larger ventures are not likely to provide real benefits in any substantial way.

Livelihoods framework

The Sustainable Livelihoods Approach (SLA) emerged in the 1980s and has remained quite consistent throughout its adaptations by various organizations and agencies. It is based on a set of principles that call for people-centred, responsive,

participatory, multi-level partnerships which seek to provide sustainable, dynamic development solutions within a flexible framework. The livelihoods approach applies well to this case-study. Connecting macro-level policies to micro-level livelihoods, provides an overall picture of livelihood outcomes of participants and the relationship between processes, institutions and processes, and strategies.

Given the holistic nature of the approach, the livelihoods framework is helpful in clarifying and structuring this discussion. While several different frameworks exist they are generally quite similar. Frameworks developed by CARE, DFID, Ellis, IDS and Oxfam were reviewed. Each version outlines similar elements including livelihood strengths and assets; vulnerabilities; structures and processes; and strategies and outcomes. A chart adapted from DFID’s Sustainable Livelihoods Guidance Sheets (1999) and brief description of each item integrated within the framework is included below.

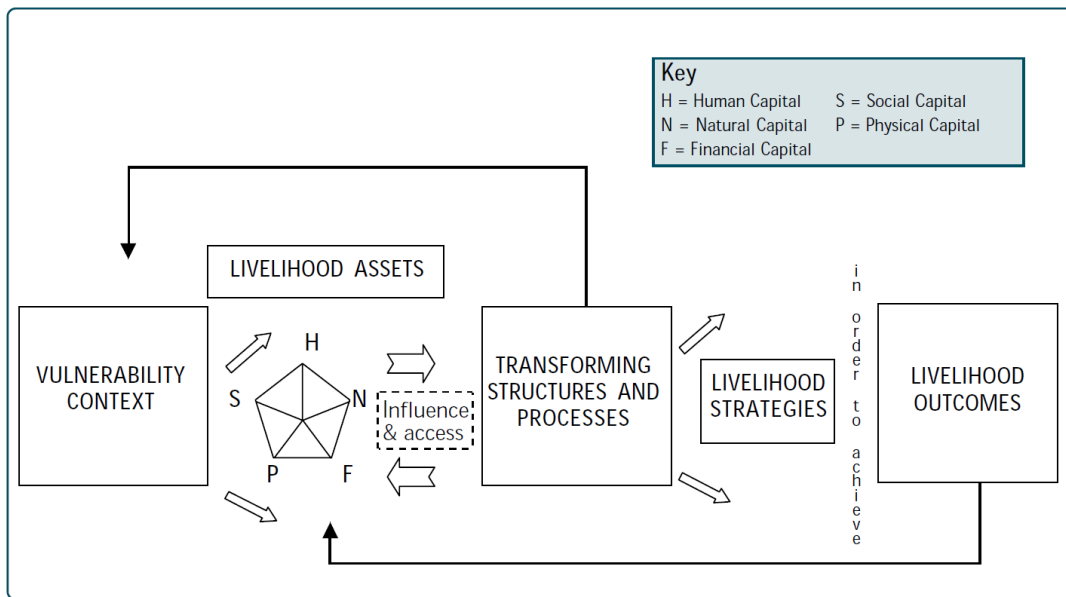


Figure 1. Livelihoods Framework

Assets refer to the resources that people use in constructing their livelihoods. In analyzing assets, the focus is meant to be positivist in nature, looking at what people have available rather than what they need. Assets are believed to be drawn upon to address vulnerabilities and shocks.

Livelihood assets are grouped within the five following areas: financial/economic assets, physical assets, natural assets, human assets and social assets (DFID 1999). Sometimes assets are also referred to as capital or resources. All terms will be used interchangeably within this thesis as substantial differentiation does not exist.

Financial capital refers to stocks gained through income, savings, credit, trade or remittances. Physical capital can include infrastructure, tools, equipment and ICT. Natural capital refers to natural resources. Human capital encompasses a person's skills, knowledge, health and ability to work. Social capital includes relationships, networks and groups which facilitate cooperation.. Assets can diminish or increase based on the vulnerability context and structures and policies.

Vulnerabilities refer to shocks, trends and seasonal issues which negatively affect livelihoods. Examples include economic trends, natural disasters (shocks) and seasonal fluctuation in employment opportunities. Vulnerability may decrease when trends move in more favourable directions.

The 'vulnerability context' looks at both internal and external shocks and at a person's ability to withstand these shocks. According to Chambers and Conway (1992, 15), methods of adaptation can include stinting, hoarding, protecting, depleting, diversifying, claiming and migrating.

Livelihood structures refer to the organizations (private, public and NGOs) that determine and deliver policy, services and functions. Processes refer to the laws, policies, and cultures as well as institutional processes delivered by these agencies. Both structures and processes exist at a variety of levels and, though complex, the key to understanding their effect on livelihoods stands in the analysis of the linkages between the micro-macro levels.

Policies, Institutions and Processes (PIP) were expanded upon in recent years to further highlight the importance of power and structure on a person's ability to attain sustainable livelihoods (Carney 2003). While a critical variable in understanding livelihood strategies, the scope of what could be included within this section is tremendous. However, the inclusion of PIPs provide an import link for connecting the micro and macro.

Strategies are the means which people use to meet their livelihood objectives. These are fluid, dynamic processes used to achieve a desired outcome. Essentially, people use their assets within the structures and policies put upon them to overcome vulnerabilities. By balancing available assets people manage their 'livelihood strategies' (Scoones 1998, 9). Additionally, "livelihood strategies are composed of the activities that generate the means of household survival" (Ellis 2000, 40). Strategies are fluid and shift to accommodate changes within assets, vulnerabilities and PIP.

Within the livelihoods literature, there are three common strategies to create sustainable livelihoods: agricultural intensification/extensification (Carswell 1997), livelihood diversification (Ellis 1999) and migration (McDowell and deHaan 1997).

Agricultural intensification/extensification refers to whether resource use or land use is increased to positively affect output. Diversification refers to increasing the type and number of income generating activities or creating a more diverse portfolio of incomes and strategies. Migration can include rural to urban movement; seasonal; and international movement to seek employment (Ellis and Harris 2004; McDowell and deHaan 1997).

Desired outcomes of the livelihoods approach aim to reduce poverty by creating livelihoods that are able to withstand shocks. Positive outcomes can include indicators like increased income, well-being and food security or reduced vulnerabilities (Cahn 2007, 26). All livelihoods are affected by access, trade-offs and trends (Scoones 1998). Livelihoods must balance issues related to adaptation, resilience and vulnerability to cope and recover from shocks (Davis 2003).

There are several variations of the livelihoods approaches and framework which exist that contain minor, yet important, adaptations from the basic outline and framework included in the preceding sections. Definitions of assets and capital are fairly congruous, though in one case social capital is further defined as socio-cultural capital and socio-political capital (Moore et al. 2001, Duncombe 2007). Slight variations exist in definitions related to livelihoods and sustainability. Most notably, CARE and Oxfam models suggest that sustainable livelihoods should provide opportunities for the next generation. Sustainability in all cases refers to environmental health, though the definition is frequently expanded to include livelihoods security. Some frameworks are specific in their focus on rural livelihoods (DFID, IDS and Ellis). While none of the

approaches highlighted above include information specific to microenterprise or ICT, all of the approaches allow for the flexibility of its inclusion.

In terms of poverty reduction, Scoones argues that the livelihoods approach needs a poverty measurement-level against which to assess. In addition, Scheafer and Jodha (Chamber 1995) reiterate the need for research to remain both quantitative and qualitative. These recommendations are both easily included by the proposed research methodologies. Chambers and Sen both argue that the SLA should include wellbeing and capabilities, moving beyond human capital to include self-esteem and happiness (Chambers 1995). The flexibility of the livelihoods approach is well-matched to meeting these recommendations. Poverty statistics are easily accessible through census data and can be corroborated through other qualitative measures.

It is also argued that ensuring natural resource base sustainability is important, as rural livelihoods are generally much more reliant on natural resources than their urban counterparts (Scoones 1998, 6). From an agricultural perspective, this is quite true. However, in the case study and in many other non-farm livelihoods, maintaining the natural resource base may be less of a direct issue. Ensuring natural resource sustainability is important regardless of whether a livelihood takes place on or off farm or in rural or urban areas. In the case of jewellery artisans in Taxco, there are limited stresses on natural resources in the immediate area. While mining causes significant environmental issues, which should not be ignored, the majority of silver bullion is currently imported from other countries.

Limitations of the approach

Mohan and Stokke (2000) critique the trend to romanticize the local, from both neoliberal and human-centered development perspectives, which they argue, limits understanding of local power and social inequities. They are correct in arguing that this significant focus on ‘the local’ actually ends up undermining local inequalities and that both sides underplay power relations. It is important to note that power relations are frequently overlooked in other development applications and that local inequities are all together ignored in most top down approaches.

The authors further argue that by not rooting identities of local players, it creates a comparison which only relates ‘the poor’ against an undefined ‘elite’ (253). This is true, from a theoretical description, of many approaches to local development. These descriptions generalize and erase the very identities which they are intended to define. It also highlights how those in power (the elite and more specifically the local elite) are somewhat removed from any discussion at the local level. While one could argue that the elite are not the focus of development and poverty reduction, they are intrinsically linked and should in the very least be adequately identified. Additionally, as the holders of power and money, they place tremendous pressure upon those who are not in positions of power. Mohan and Stokke argue that local development theories must pay important attention to “the politics of the local” and issues of scale to overcome these deficiencies (249), which is equally true of all development agendas which aim to reduce poverty.

They go on to argue that a local focus can isolate the micro-level from the broader structures within which it must operate. It is clear that by focusing on one area others are implicitly excluded, however, there are few theories and practices which outright ignore the structures which an individual, household or any other group must operate. Additionally, ignoring the individual’s ability to identify structural issues, political

inequities and other high-level challenges, ultimately reinforces the identity of ‘the poor’ in the same way they argue against.

Veltmeyer (2007) further suggests that the SLA is limited by not evaluating the inequities that exist within and between households. Overlooking class divisions, at all levels, restricts the development of an in-depth understanding of poverty. Furthermore, according to Akram-Lodhi (2011), the SLA should lead to a recommended solution of redistribution, effectively suggesting as a solution the structural issues which were initially omitted from the framework. O’Laughlin’s (2004, 387) point is more direct. He argues that livelihoods research is insufficiently grounded in theory. In concentrating on the individual, the approach is focused more on practice and empirical research – leading to further failure to investigate or call for collective action against the structures which propagate poverty.

In order to mitigate some of these risks it is imperative to actively study power relations both at the micro-level and between the macro and micro levels. Some of the challenges in identity are able to be overcome by using a case study approach which is able to directly identify local actors, including those in positions of power and those who are marginalized. Additionally, identifying the connections between institutions, policies, power and the individual is integral to positioning development programming and structures to successfully support poverty reduction.

Mohan and Stokke (2000) also highlight, from a critical perspective, how despite contrasting reasons, the opposing agendas of both neoliberalism and human-centered development are now remarkably aligned. These aligning ideologies present many areas of critical concern. However, Mohan and Stokke are not calling for an end to local development but are arguing that the political reasons behind a focus on the local must be uncovered. These vastly different views are resulting in somewhat similar approaches

which presents an interesting opportunity – moving forward will generally be met with significantly less tension. And while a tempered approach to development may not be the most exciting, it could be significantly less stressful for ‘the poor’ than for example previous neoliberal approaches proved to be.

The livelihoods approach is a useful structure in analyzing local politics and using a qualitative methodology can further highlight local power inequities. It provides a broad scope including policies, processes and structures within which the individual/group operates and considers power and social capital at the local level. To address issues of scale and linking the local to the macro, the case study is prefaced by a macro-level summary and analysis of national and state-level statistics followed by municipal data. One of the strengths of the sustainable livelihoods approach is that it is a participatory, people-centred approach to development opposed to top-down approach. The focus on the individual allows for a better-developed understanding of the causes and realities of poverty. Linking macro structures and policies to the micro-level further enhances the researcher’s or development practitioner’s understanding of poverty.

Another frequently criticized concept is that of social capital. Ben Fine (1999) is extremely critical of the concept social capital, particularly as used by the World Bank. He argues that despite remaining an ambiguous concept that is used as a catch-all, it has paradoxically bolstered significant research and support. His concern lies not in the theoretical compatibility of social capital with neoliberal economics but in the continued practice of aligning these as though social capital *is* an economic theory. As social capital gained momentum it became aligned with many ideologies.

In order to mitigate some of Fine’s cited pitfalls of social capital, it is important to ensure that it is well defined and given an appropriate amount of emphasis, that is, it should not be given more authority or importance than is appropriate. When used in

illustrative manner, rather than as a solution, and kept as a small part of an overall picture – as with the livelihood framework – Fine’s cautions can be moderated.

There are several other criticisms of the livelihoods framework, though these are less significant and can be easily addressed. There are few guides to implementing the rural livelihoods framework in either practice or research. On one hand, this allows greater flexibility in data collection. However, the framework is so broad that it can be challenging to address all areas, particularly for smaller projects. Fortunately, as more case studies are published, there is some structure and guidance from which to refer (Cahn 2006, 45).

Marzetti argues that the SLA is not created for adaptation to different cultures. The user needs to recognise socio-economic and cultural factors that may necessitate substantial changes in the structure of the framework (Marzetti 2001). Several others have successfully addressed the challenge to incorporate culture and to adapt to cultural norms (see Cahn 2006; Bebbington 1999; Glakovic et al. 2003; Clark 2002). While the market is not explicitly discussed in any of the frameworks outlined here, it can be implicitly included within the structure of the PIP.

Another criticism of the approach is offered by Ellis (2001). He argues that the livelihoods approach is not dynamic enough to capture changes that occur over time, presenting instead a snapshot of current contexts. This limitation, consistent with all non-longitudinal study methods, could be overcome by repeating research with the same group to illustrate changes in time or including participants’ perceptions of the past. Additionally, it is often cited that though the approach is intended to be people-centred, it is often focused on macro levels, and thus studies then run the risk of making the individual invisible.

Utilizing a livelihoods framework of analysis, however, in this instance provides several benefits. An approach with a rural focus which is non-farm inclusive, is integral to the case study. The ability to apply livelihoods framework to analysis of micro-macro linkages allows for broad study of high-level policies and processes while providing linkages to micro-level outcomes. The flexibility provided by the framework also allows for minor adaptations of highlighted priorities, which in the case dictates a focus on markets, microenterprise as a strategy and the explicit inclusion of ICTs and e-commerce. Livelihoods perspectives have also evolved to move beyond income as an indicator of success by including well-being and happiness. One of the often-identified weaknesses of the approach and framework is that it is too holistic. Here, this limitation is overcome by limiting the parameters of the study. There are a limited number of studies to draw from which use the framework as a tool for analysis of ICTs and e-commerce in rural microenterprises – particularly at the micro-level. However, given the benefits of the approach it presents a good model for application in this study and allows for a modest contribution to the body of research.

Microenterprise and livelihoods

In contrast to theories which argue that large businesses are important drivers of economic growth supported by liberal economics and capitalist theory, small enterprises positively contribute to employment, economic growth and in turn, development (Duncombe 2007). It is believed that these enterprises can help to distribute the benefits of economic growth and reduce distribution inequalities (UNCTAD 2010). Additionally, at the micro-level, microenterprise activity has been shown to reduce risks and vulnerabilities by strengthening livelihood assets, and to promote economic

empowerment (Ellis 2000; Davis 2003). Focusing on microenterprises and research on the micro-level provides a better understanding of poverty. While the macro-economy may improve faster from larger businesses, poverty reduction is not necessarily affected. As discussed previously, inequality measures are not always provided to contrast to macroeconomic measures, potentially skewing notions of positive development.

Microenterprise is not explicitly included in livelihoods literature nor are livelihoods frequently discussed in literature on microenterprise, despite their close relationship. Building on research by Cahn (2006); Davis (2003); Duncombe (2007); Duncombe and Molla (2008); and Ellis (2000), the next section outlines microenterprise as a strategy for sustainable livelihoods. The proceeding section then links ICT and e-commerce as tools for enhancing livelihood strategies.

Microenterprises are often classified as having one of two different purposes: either they are survivalist or entrepreneurial in nature. Survivalist enterprises, which make up the vast majority of enterprises in developing countries, are frequently home-based family businesses that are driven by lack of employment opportunities elsewhere (Duncombe and Heeks 2002; Shaw 2004). They are often unregistered and operate within the informal sector. Entrepreneurs on the other hand generally have actively decided to open a business because of the opportunities for income generation and growth that exist. It is argued that “microenterprises that are entrepreneurial tend to be comparatively small in number but can play a greater poverty-reducing role than survivalists” (Duncombe 2007, 82).

Three main types of microenterprises were included in this research project: home-based businesses, worker cooperatives and private for-profit businesses. Home-based businesses are frequently informal and draw on unpaid family labour to meet fluctuating business needs. Women often own these businesses, which permit them to work from home with flexible hours while caring for children. As this business type is home-based it also reduces overhead associated with managing or renting a second property. Using Duncombe's classification, these would be survivalist enterprises.

Worker cooperatives are common among artisans. The structure allows groups to pool resources, share benefits and lessen shocks and vulnerabilities. The cooperatives included in this study operated democratically by consensus. In both groups a portion of profits are allotted to community development projects.

In this case study, the private for-profit business is the traditional silver workshop. This entity has evolved from the large, factory-like *talleres grandes* to a smaller enterprise, in part due to the proliferation of family-centred home-based workshops.

As with most developing countries, the vast majority of Mexican microenterprises are family-owned and operated, with a focus on meeting local market demands. While limited formal data exists on business ownership and control structure, it has been shown that Mexican family-owned firms out-perform their non-family owned counterparts based on marketing and accounting performance measures (Aguiló and Aguiló 2012). Family firms were found to have higher return on assets and increased ownership concentration, which is linked to improved company outcomes. Most of the cooperatives and private firms included in this study also had familial links that will be further discussed in

Chapter 6. Both family and non-family, formal private businesses were included in this study.

A microenterprise classification table, initially composed by Cahn (2006, 59), is used as a method of analysis in Chapter 6. Cahn's table includes six means of classification: "level of economic activity; level of labour compared with capital and technology; entrepreneurs' mode of work; sector of activity; organization of enterprises; type of products; and type of support system under which the microenterprise operates" (Cahn 2006, 59). These classifications have been adapted to best illustrate the case study by comparing and contrasting enterprises, products, markets and artisans livelihoods.

Microenterprise development as a livelihood strategy can be a means to reduce poverty. As identified by Duncombe, "poor households in general will likely step in and out of microenterprise activity depending upon the nature of activity, seasonal demand, the availability of resources and other personal and social factors" (Duncombe 2007, 82). As a livelihoods strategy, microenterprises offer flexibility in overcoming gaps presented by vulnerabilities.

Microenterprise, livelihoods and e-commerce

In 1999, UNCTAD projected that "electronic commerce has the potential to be a major engine for trade and development on a global scale" (UNCTAD 1999). In the following years, e-commerce did become a major engine of trade, though much of the impact remains limited to developed economies. However, development agencies and donors continue to encourage ICT and e-commerce initiatives. By 2010, the World Bank

had become the largest international donor of ICT for development projects, with an estimated \$2 billion invested in ICT projects in 95 countries. In addition, \$7.3 billion was invested for IT components of other programs (World Bank News 2010).

Technology is now better understood to be just one tool rather than the panacea for development. Within microenterprise development, e-commerce has emerged as a useful technological tool. E-commerce has been proven to increase revenues, employment and the overall number of participating micro and small enterprises (MSE). These positive changes are mainly limited to developed economies – which may cause further expansion in the gap in market access and business growth between developed and developing nations (UNCTAD 2004; Duncombe and Molla 2006). Evidence exists for positive results of e-commerce through early adoption in developing countries. Development agencies, governments and donors continue to strive to create enabling environments for the propagation of MSE and e-commerce development. Given the proliferation of MSE in developing countries and the relative low cost and nearly national access to ICT (and theoretically e-commerce) throughout Mexico, e-commerce may be a tool to increase market reach and income in rural areas.

‘ICT’ and ‘e-commerce’, two terms used in this research project, require further clarification. Both terms are subjected to variations in definitions in the development literature, which range from the narrow to broad. Narrow definitions are generally focused on more advanced and expensive technologies, and thus have the potential to limit the initial uptake of technology by MSE in developing countries, where e-readiness and e-commerce growth is incremental.

ICT (information and communications technology - or technologies) is an umbrella term used to describe information handling technologies. Like e-commerce, the concept of ICT in development is plagued with muddled meanings. In developed countries, the term ICT is regularly used to describe strictly digital technologies, however, non-digital technologies are often more prevalent in rural areas of developing countries (Duncombe 2007; Kenny 2002).

For the purposes of this thesis, the term ICT will be used broadly to encompass all information handling technologies, which are used by or accessible to the poor (Duncombe 2007; Duncombe and Heeks 2002; Heeks 1999). Both digital and non-digital technologies are incorporated in this definition including (but not limited to): television; radio; landline telephones; mobile phones; computers, hardware and software; digital cameras; fax machines; video cameras; and the Internet.

From a business and marketing perspective, e-commerce is closely linked to ICT. It is a generic term to describe the way trade occurs electronically. It is a process in which on-line buying is enabled through the Internet. A broad definition of e-commerce, which includes the services and activities that artisans use to produce, market and sell their wares, is being used for the purpose of this research project. Communication, marketing, advertising, sales and payment are activities associated with e-commerce, which will be included within my research.

This research will use the following European Commission (1997) definition of e-commerce:

Electronic commerce is about doing business electronically. It is based on the processing and transmission of data, including text, sound and video. It encompasses many diverse activities including electronic trading of goods and services, online delivery of digital content, electronic fund transfers, electronic share trading, electronic bills of lading, commercial auctions, collaborative design and engineering, online sourcing, public procurement, direct consumer marketing, and after-sales service. It involves both products (e.g. consumer goods, specialised medical equipment) and services (e.g. information services, financial and legal services); traditional activities (e.g. healthcare, education) and new activities (e.g. virtual malls).

E-commerce in development initiatives began to emerge in the late 1990s following the dot.com boom in more developed countries. Development agencies and donors speculated that the substantial gains made by enterprises in developed countries could be replicated in developing countries, ultimately fuelling national economic growth. Initial promotion of e-commerce programs occurred through a neoliberal lens, aimed at supporting private enterprises. As ICT became understood to be a tool for development, proponents of human-centered development, who had been linking microenterprise and livelihoods, began to acknowledge and promote ICT and e-commerce as a strategy to create sustainable livelihoods.

In looking more closely at types of e-commerce, it becomes apparent that they offer very different benefits. Business to business (B2B) e-commerce is emerging as the most important form of e-commerce. Kshetri and Nikhilesh (2002) argue that B2B e-

commerce is growing at a more rapid rate and with more uniformity in terms of geographical distribution than business to consumer (B2C) activities. UNCTAD (2005, 18) notes that “e-commerce is most prominent in manufacturing shipments, followed by wholesale trade, accounting for 21.1 per cent and 13.1 per cent of total sales respectively. Online sales are less common in retail trade (B2C) or in services industries, with 1.7 per cent and 1 per cent of total sales respectively”. However, the market percentage that a country maintains in B2B e-commerce is vastly dependent on country-level determinants including population, income, access to credit and venture capital, ICT infrastructure, taxes, tariff barriers, government support of education, language and government regulations of firms.

Strictly focused business to consumer (B2C) e-commerce enterprises have undeniably had more failures than successes. For developing countries, it is unlikely that B2C is viable because of the large amount of financial and human capital required. Some of the strongest examples of successful B2C e-commerce applications in developing countries exist when e-commerce and remittances are combined, targeting diasporas such as Thamel.com in Nepal or Babawatoto.com in Kenya.

It is generally agreed that "ICT have become fundamental tools to maintain the competitiveness of enterprises: they are instrumental in linking firms into supply chains and are indispensable to enhance competitiveness" (Global Alliance for ICT and Development 2008a, 1).

In terms of artisans and e-commerce development projects, Heeks provides an interesting insight. He argues that ICTs are used too often to do old things, in what he

terms *intensive* versus *extensive* usage. Any activity or project that artisans were able to complete prior to the arrival of a particular technology remains an *intensive* use, because it has not resulted in new jobs, skills or income. For Heeks, proper *extensive* usage of ICTs by artisans would contribute positively to livelihoods by expanding employment opportunities, building capacity and increasing income. Unfortunately, Heeks' definition undermines the efficiency often attributed to introducing new technologies to complete old tasks. In looking at ICTs as tools, it would not be expected that a tool would necessarily create a new job or skill or income. Heeks' explanation and definitions are linked to outdated beliefs that ICTs can be development.

E-commerce opens up new markets, but it can also mean new problems. Orders are often small and widely dispersed globally. Globalization and e-commerce have created a consumer-culture expecting quick service and delivery.

Governments in developing countries also have a role to play. Beyond their role in providing the appropriate environment for the development of the ICT infrastructure, governments must set up a legal framework for e-commerce that promotes trust. For e-commerce to flourish, many needs must be met including awareness, training and education, with connectivity and access available. E-commerce must be supported by policies targeting the development of specific sectors. Obstacles preventing e-commerce from thriving nationally are often related to lacking infrastructure or access; low human capital because of limited skills; insufficient legal and regulatory frameworks; low taxes on imports; and unsupportive or underdeveloped financial institutions and other intermediaries.

In rural areas, great potential remains for development of ICT, and e-commerce in particular. In many respects these areas are likely to benefit the most from ICT and above all from the provision of services enabled by ICT related to health, education, trade and government. However, e-commerce may only offer the potential for poverty reduction if linkages can be created between macro-level policies that create positive, micro-level results.

Connecting ICT, e-commerce and livelihoods framework

The livelihoods approach offers an appropriate framework of analysis in ICT for development applications (Duncombe 2006). As the role of ICTs became more widely accepted as a tool for development, ICTs and e-commerce began to be promoted as a strategy for livelihood sustainability by human-centred development practitioners mirroring at the same time a similar move in the neoliberal agenda..

Chapman, Slaymaker and Young (2003) identified the importance that information and communication can play when choosing livelihood strategies that effectively mitigate vulnerabilities. By clarifying linkages between ICT and livelihood assets, the role and impact of ICT on reducing vulnerabilities become apparent.

The following linkages between livelihood assets and ICTs were adapted from Batchelor and Scott (2001), ODI/FAO (2003) and De Silva, H. (2008, 35). By looking at each livelihood asset individually, it is possible to outline some of the potential impacts of ICTs within each of these assets. Social capital can be increased through better communication and access to larger social networks. There are limited linkages to natural

capital applicable to the scope of this research project. ICTs in human capital can facilitate access to information (in local languages too), education through distance learning and ICT at schools, access to e-health. It can also help to increase time available for other productive activities, assist in storing knowledge and allow for capacity building through increasing skills. Physical capital is generally situated within access to hardware and software, supported by ICT infrastructure. Financial assets can also be affected through higher profits from increased access to market information, accessing remittances, reducing transport costs and greater access to financial services and information.

ICT can also be included within policies, institutions and processes by looking at those instances of each with a focus on ICTs. For instance, areas applicable to this thesis will include e-commerce policies and national ICT infrastructure. Strategies in this case will include business models (ie; e-commerce, e-business).

Duncombe (2006) warns that ICT applications may offer limited direct benefits in poverty reduction through a case study of microenterprises in Botswana. He argues that the livelihoods framework prevents an over emphasis on ICT that is common in other ICT for development research. In effect, the framework helps to highlight how little effect ICTs have on poverty reduction by ensuring a more complete overall picture of the complexities of development.

A better understanding of how ICTs are incorporated into artisans' livelihood strategies, will provide a more thorough picture of the barriers to e-commerce.

Development approaches that suggest e-commerce as a means to increase livelihood

outcomes for artisans underplay these barriers. Even if e-commerce is presented as an ultimate goal by artisans themselves, there are many steps in ICT-adoption that must be reached in advance. Studies and approaches to development which present e-commerce as an attainable first step for artisans and microenterprises, ignore the many barriers presented to those with limited experience with ICTs and trivialize the importance even minor ICTs can present.

Any study which looks at an intersection of disciplines must be situated within appropriate theory and a well outlined framework. The livelihoods approach presents an excellent framework for studying ICTs in rural microenterprises. Using both quantitative and qualitative research methods, and focusing on macro and micro linkages can present a balanced view presented of the challenges that artisans face in using e-commerce.

Chapter 3. Mexico Background

Mexico is of particular interest in studying rural livelihoods, as significant divides exist between rural and urban contexts. In recent years there has been a decline in profitability of small farms due to land privatization, the growth of large agribusinesses, the reduction of trade barriers (e.g. NAFTA) that resulted in a flood of imports and subsequent migration in search of employment. Rural inhabitants are struggling to make ends meet and are seeking new ways to support themselves.

As of 2008, the estimated Mexican population was 103,263,388 (INEGI 2007). The UN Statistical Database estimates the country to have a GNI per capita of \$9,980. Based on INEGI estimates of 2005, the gender balance is 51.3 women to 48.7 men, though this may fluctuate significantly within rural localities. The population growth is currently 1% annually, with a fertility rate of 2.2 births per woman. According to OECD, Mexican quality of life is on an upward trajectory. Life expectancy has increased from 74.1 to 75.5 years, and infant mortality has decreased from 23.3 to 18.8.

In 2000, more than 24% of the national population was deemed to be at or below the national poverty line, with the poorest 20% of the national population holding only 3.9% of the total income share (World Bank, World Development Indicators database). While considered a middle-income country, Mexico has significant regional disparities in GDP per capita and is ranked lowest among OECD countries with almost 60% of its population living below the national median GDP per capita (OECD 2009).

IFAD outlines three main factors that contribute to poverty in Mexico: distance from urban centres, ethnicity and gender. Statistics on poverty in Mexico from 2004 rank 28% of the population in rural areas in extreme poverty (unable to meet basic needs) and 56 % in moderate poverty (World Bank, World Development Indicators database; OECD 2007, 16). Given that in 2008 the rural population was estimated at 24.2 million, these statistics indicate that 17 million people are living in poverty. The highest levels of rural poverty (50%) are found in the three most southern states of Oaxaca, Guerrero and Chiapas.

Such prevalence of poverty is not new - despite a very strong economy beginning in the 1940s and lasting until 1970. Internationally dubbed the 'Mexican Miracle', Mexico's economy was supported by an import substitution program that focused national industries on supplying local markets and limiting imports through tariffs and other barriers. Reducing imports allowed Mexico to strengthen national industries while keeping profits within the country.

As industrial production increased, agricultural and primary production decreased, negatively affecting rural inhabitants. Soil quality and productivity decreased and overall credit available to small producers was insufficient. Additionally, the increase in industrial production resulted in movement to urban centres which began eroding the rural population, with rural inhabitants seeking employment in cities and abroad. In 1940, the USA introduced the Mexican Farm Labour Program, a temporary worker program that operated over two decades, which brought many agricultural workers to the US to fill labour shortages created by the war. Nationally, the Mexican land redistribution

programs, which initially supported small landholders, were halted by 1940 and larger private farms took over.

By the 1970s, Mexico's economy began to falter. Inflation was high due to rising oil prices and social spending that outstripped national income. As the government struggled to cover the cost of its programs, national debt increased. The USA provided Mexico with a \$50B loan. Interest rates were initially low, but soared to over 20% in the 1980s. Newly accrued debts were laden with neoliberal policies, which generally sought to limit inflation through strict monetary policies, liberalize trade barriers and establish floating exchange rates. Throughout Latin America and the developing world in general, debts soared while economic and social development halted. A substantial drop in oil prices further contributed to the country's soaring debt. The 1980s became known as the lost decade in Latin America.

The North American Free Trade Agreement (NAFTA), a preferential free trade agreement implemented in 1994 between Canada, the USA and Mexico, sets the rules of trade between member countries and remains Mexico's largest trade agreement. Initiated after more than ten years of privatization and deregulation through neoliberal structural adjustment policies, NAFTA further opened trade while theoretically offering the potential for increased export of Mexican products. Market expansion and diversification for exports did not progress as hoped, with 90% of exports concentrated in the USA. Overall NAFTA resulted in increased competition both nationally and internationally, and many producers in Mexico were unable to compete.

It was widely believed by neoliberals that NAFTA would improve economic efficiency and positively affect labour with higher wages and increased productivity – in short, it would improve the standard of living. In Mexico, exports did increase from 15.3% to 32.7% from 1930-1999 (Sanchez 2000, 14) as did FDI, and inflation was also brought under control. However, no clear increases in real wages or in labour productivity were evident after NAFTA.

Opinions on the success of NAFTA, particularly regarding its effect on Mexico, have been mixed. While some writers assert that the “agreement has brought economic growth and rising standards of living for people in all three countries” (DFAIT website) others strongly disagree. Gallagher and Wise (2002) argue that while “trade liberalization has succeeded in stimulating both trade and investment... these benefits are yet to accrue to the Mexican population as a whole” (2). Economic growth has slowed, imports significantly exceed exports, and wages have declined. Few jobs have been created and the ILO (2013) estimates more than 50% of workers have informal employment or are employed in the informal sector.

One of the most detrimental effects of NAFTA has been to the rural sector. Nearly 1.3 million agricultural jobs were lost due to NAFTA (White et al. 2003, 42). At the time of negotiation of the NAFTA contract, more than 40% of agricultural producers were cultivating corn. Once NAFTA was implemented and tariffs were removed, heavily subsidised corn imports from the US flooded Mexican markets, exacerbating falling commodity prices and pushing many small farmers out of business. The average monthly

income of self-employed agricultural workers plummeted in the decade following NAFTA's implementation from \$1959 pesos to \$228 pesos (White et al. 2003, 19).

Shortly after NAFTA was implemented, Mexico's economy spiralled out of control. Headed by the devaluation of the peso (more than 35% in two weeks), the country was thrown into economic crisis. During a one year period beginning in late 1994, the "peso depreciated 123.3%, and in 1995 the economy suffered its worst recession since the 1930s, with GDP contracting 6.2%" (Sanchez 2000, 4). The 1995 economic crisis slowed economic and social development. Though the economy grew at a rate of over 5% between 1995 and 2000 (Crandall, Paz and Roett 2005), poverty figures have only recently reached pre-crisis levels due in part to increases in remittances, employment programs, rural non-farm activities and rural development programs (IFAD website).

At the time of my field research in late 2008, Mexico's economy was again in a sharp downturn. Remittances, Mexico's second largest form of foreign income, were believed to have fallen to \$25 billion USD (BBC News 2008). Poverty levels rose during the period of 2008 to 2010 resulting in an additional 3.2 million more people living in poverty in Mexico (CONEVAL 2011, 21).

Structures, institutions and processes

The Mexican government is a democratic system, headed by Felipe Calderon at the time of field research. The federal government is composed of autonomous executive, legislative and judicial branches. Terms are six years and non-renewable. This lack of

continuity of government brings forward issues related to long-term planning and expertise. State and local governments also follow the same branch structure, with states relying heavily on the federal government for revenue. The state and federal governments both channel funds to local governments. Municipal governments handle much of the public services, including water and sanitation. The structure is also intended to provide autonomy at the local level. In practice however, decision-making frequently appears authoritative and centralized, and the political hierarchy tends to limit power at the state and municipal level.

Over the last thirty years, Mexican policy makers have focused on market-based reforms through economic liberalization. Public administration has undergone a process of decentralization and several state companies have been privatized. Rural areas only began to benefit from most social services in the 1990s (including medical services, old age pensions and anti-poverty programs), despite a substantial rural population (Aparicio et al. 2003, 2).

Given the geographical scope and diversity of the country, there are significant challenges to Mexico's rural policy and development. Over the last several decades, policy has moved from a single sector agricultural focus to a multidimensional approach that includes various ministries and levels of government (OECD 2007, 20). Overarching rural policy and development goals include poverty reduction, public service provision, strengthening of the rural economy and protection of cultural and natural resources. Agrarian policies introduced in the 1980s have provided little help to small-scale farmers. Rural development has focused on territorial programming and clustering rural

infrastructure and resources to encourage investment, resulting in localised pockets of development.

Over the past forty years, rural Mexicans have experienced a significant shift in employment activity and income generating composition. There has been “a dramatic decline in the importance of agriculture; a substantial increase of wage income (farm and non-farm) relative to self-employment and entrepreneurial incomes; a substantial increase in public and private transfers; and a substantial increase in importance of rural non-farm high return occupations as a source of income” (WB 2007, 171).

The development of higher income generating non-farm activities encouraged shifts from agrarian to non-farm activities. While agrarian policies promoting agricultural development have been implemented since the 1980s crisis, they appear to provide little benefit to poor small-scale farmers. Territorial programming has begun to be applied to Mexico’s rural development plans through a variety of approaches including clustering rural infrastructure and services, encouraging investment, and provision of direct cash transfers.

More recently, Mexican authorities have focused on creating a legal framework and specified strategies for rural and social development. The Sustainable Rural Development Act and the Social Development Act were introduced in 2001 and 2003 respectively. Together they focus on improving equality and social welfare and reducing poverty. A variety of national programs, including those offered by the Ministry of Social Development (SEDESOL) and the Programme for the Development of Indigenous

Peoples (ECD) target rural poverty reduction. Poverty reduction and rural development currently fall under the responsibility of the federal government's Social Cabinet.

However, these programs have had limited reach in Guerrero. According to the state government of Guerrero, the absence of government policies to promote and consolidate production in the small business sector has caused increased competition in international and domestic markets, forcing the area to become more dependent on the tourism sector (Guerrero n.d. 17). Tensions also exist within government structure. Insufficient revenue generation in state and municipal governments creates dependency on the federal government, essentially re-centralizing the structure. Additionally, federal funding provided directly to municipal levels undermines state power.

Rural livelihoods and microenterprise in Mexico

Given the size of the rural population and the importance of non-farm livelihoods, microenterprise is frequently employed as a livelihood strategy in Mexico. MSEs in Mexico are estimated to make up 99% of firms and to generate more than 50% of GDP, attesting to their importance to the Mexican economy. Of the nearly 4 million MSE businesses, more than 95% are microenterprises (0-10 employees). Microenterprises represent a smaller sector share in manufacturing than those involved in retail and service sectors (OECD 2007).

Many MSEs are part of a substantial informal sector that proliferates in Mexico. The informal sector is comprised of businesses which operate outside of any regulatory framework, do not pay taxes and whose activities are not included in calculations of

GDP. It is estimated that Mexico's informal economy consists of nearly 30% of workers in 3 million informal firms (OECD 2007, 16). Employment in the informal sector was on average 27.9% for women and 26.5% for men from 2006-2007 (ILO 2010, 2). As unemployment rates increased during the economic crisis of 2008, workers began creating their own employment in the informal sector. Following the economic crisis of 2008, rates of informal sector employment had risen to 30% for women and more than 27% for men.

MSEs are supported in a variety of ways throughout Mexico, most commonly by state-mandated organizations. Business development centres (BDC) are public, private or hybrid organizations that support enterprise development and productivity. Mexico's federal spending on BDCs remains modest at 1%. National policy assistance programs have suffered from unequal uptake despite federal encouragement, particularly in the southern states where BDCs have less representation (OECD 2007, 70). Additionally, inequalities exist in support to microenterprises versus small and medium enterprises. In a 2007 study, only 4% of microenterprises benefited from MSE support policies, whereas one-half of small and medium enterprises received support (OECD 2007, 95).

SMEs in Mexico: Assets and Resources

Mexico is of particular interest to ICT for development initiatives because of what is generally viewed as strong governmental support and national programs. Mexico has had considerable success in providing national access to the Internet. The *e-Mexico Initiative*, a 'universal access' program aiming to bring the Internet to all Mexicans, has

been working towards universal Internet access in rural and urban areas, and implementing progressive legislation to promote electronic media in commercial transactions.

In Mexico there was a 45% increase in Internet users from 2000 to 2001 and nearly tripled the total number of users by 2004. Broadband users place Mexico in the top 25 countries (UNCTAD 2005, 5-6). Internet access has become available in many rural areas opening up opportunities through e-services, e-commerce and knowledge acquisition that were otherwise unavailable a few years earlier. Whether looking at the 2010 study on vast networking potential harnessed by the Zapatistas or at the 15,000 Mexican businesses registered with the Asociación Mexicana de Estándares para el Comercio Electrónico (AMECE) in 2000, some groups have taken full advantage of these new opportunities (Curry 2002, 3). In terms of ICT development, Mexico is one of the most developed in Latin America and its systems, until the economic downturn of late 2008, have remained seemingly unaffected by falls in the global economy in the preceding decade.

According to AMIPCI statistics provided in the 2010 study on ICT infrastructure and adoption, of the 27.5 million homes in Mexico, 35% have computers and 33% of the overall population has access to computers. Of those without home computers, nearly 52% cited that they could not afford a computer and over 40% indicated that they either did not need a computer or did not know how to use a computer. Almost 54% of computer owners without Internet cited that they did not have the Internet due to a lack of economic resources.

AMIPCI's study, *Habits of Internet Users in Mexico* (2009), cited in 2008 that the country had 27.6 million Internet users, 62% of computers in Mexico were connected to the Internet and 93% (an increase of 15% over one year period) of Internet accounts were broadband (6.4M accounts). The national penetration rate of Internet users reached 29.7%, however only just over 1/4 of Internet users were in rural areas. Interestingly, AMIPCI noted an increase of 3.1M rural Internet accounts from 2007 to 2008, suggesting a development in infrastructure and accessibility for rural areas. Most Internet users had uploaded media to webpages, their own personal social media page and read blogs. Less than half had participated in discussion forums or had their own blog.

In terms of cost, Internet access is within reach of many households. Forty-four percent of Internet users fall within the lowest socioeconomic ranking levels (NSE D+) and there has been a marked increase in access from 24% in 2006 to 33% in 2007 within this group (AMIPCI 2008). It has been estimated that Internet access costs comprise on average 5% of disposable income (Dobson et al. 2010, 295).

Limited financial assets are frequent challenges for SMEs. Due to limitations in accessing financial capital, which includes business grants and microfinance loans, SMEs rely heavily on suppliers' credit borrowed at much higher costs. Suppliers' credit provided more than two thirds of financing for small enterprises in 2005, whereas commercial banks provided just over 13% of financing (OECD 2007, 16).

One means by which financial assets can be accrued by individuals operating SMEs is through remittances. Remittances account for a large proportion of financial assets for people living in developing countries. According to the World Bank more than

US\$167 billion was transferred in remittances worldwide in 2005 (2006). In a study on remittances and microenterprises in urban areas, Woodruff and Zeteno (2001) found that remittances aid in diminishing capital constraints which positively affected recipients' decisions to start enterprises. Receiving remittances also influenced the size and probability of the enterprise remaining in business. Mexico maintains one of the highest amounts of remittances received worldwide, with more than US\$23 billion in 2006. Rural and semi-urban areas receive more remittances than urban areas; of the 1.4 million households receiving remittances, 12.3% were rural and only 3.6% were urban (Demirgüç-Kunt et. al 2007).

In terms of social capital, in rural Mexico, the relationships, networks and groups that facilitate cooperation are integral to community life. Individuals, businesses and communities regularly cooperate to achieve desired goals. Families are of utmost importance in Mexican entrepreneurship, as is evident by the high rate of family-based businesses. Personal relationships are of high value in both social and business contexts. Businesses rich in social capital maintain crucial links to sources of funding and other financial and physical resources. In contrast, competition tends to further solidify bonds of kinship and trustworthiness.

Social structure and hierarchy also play a significant role in Mexican culture in all spheres. Decision-making and problem solving are frequently authoritative, which is evident from the micro-sphere of family structure through to macro-sphere of politics. Social classes are divided by economics, ethnicity and regional disparities. These power dynamics can place considerable pressure at all levels.

Indicators of human capital at the municipal-level are strengthening. According to INEGI Census statistics from 1950 to 2000, the municipality's population nearly tripled from 30,647 to 100,245. During the same period the percentage of rural population (localities with fewer than 2,500 inhabitants) declined by more than 50%. Literacy levels have significantly increased over the last 50 years at both the state and municipal level. Illiteracy rates fell from 68% to 21.6% and 50.7% to 13.6%.

There are limited linkages between the rural non-farm livelihoods of microenterprises studied and natural assets that are applicable to this thesis. While mining can have significant effects on natural resources, these areas of research did not fall within the scope of this research project. None of the participants were actively involved in agricultural or farm-based activities.

Livelihood strategies in Mexico

In theory, e-commerce provides artisans the potential to have greater market access through online stores, enabling them to sell their wares directly to consumers or businesses around the world. However, for many artisans the development of an online store is many steps away from their current reality. Furthermore, as will be illustrated by the case study, even when artisans focus their efforts on creating e-stores, their results are often drastically different from the "success stories" presented. While ICTs and the manner in which they are used could play a key role in livelihoods of artisans, external factors affecting livelihood assets like vulnerabilities, structures, processes and strategies must be taken into account to develop effective business and livelihood strategies.

UNCTAD argues that ICTs provide a profitable alternative important for artisans. The “potential to earn income at home while raising a family – with the technology to communicate inexpensively with customers around the world, and handle accounting and order processing online – makes the Internet an attractive working tool...” (UNCTAD 2002, 4).

Risks and vulnerabilities

At the time of the study there were several issues creating vulnerabilities for SMEs in Mexico. While the international financial crisis was being felt throughout the world, its effects were particularly evident in Mexico due to the country’s close market ties to the USA. Furthermore, a decline in air travel post-September 11th negatively impacted tourism to Mexico. The resulting decreases in tourism spending affected the economy at both regional and national levels and were felt most acutely in communities with economies closely linked to tourism, like Taxco municipality.

In terms of e-commerce, Mexico is well positioned in many aspects. However, competition in international markets can present additional risks, particularly for microenterprises. Infrastructure and human ability in rural areas can be patchy, despite national programs aimed at creating a trained, educated population with access to contemporary ICT equipment. It is important to provide contextualization for any case study in order to highlight factors that can be attributed to effecting livelihood outcomes. Mexico undoubtedly provides a unique context for rural artisans, where non-farm microenterprises, craft and universal Internet access programs proliferate.

Despite having relatively prolific ICT infrastructure, strong social capital and increasing indicators of human capital, Mexican microenterprises struggle to compete in international markets. The proliferation of non-farm microenterprises and the difficulties they encounter, signals a need for the government to develop better terms of trade and policies supportive of these rural businesses. In order to better understand how these structures effect the case studies context, further contextualization will be provided at the local level in the following chapter.

Chapter 4. Methodology

This research project can be classified as a qualitative, comparative case study which used field research as an important component to its methodology. The methodology developed aims to answer the research questions and meet the objectives of the study outlined in chapter one and included within this chapter again for clarity. The research design was developed to allow for as much flexibility as possible in adjusting to field research constraints or questions that arose. An outline of the theoretical framework, research methods and limitations of the research are included in this section.

The research cited in this thesis was compiled over a three year period from 2008 to 2011. Field research was completed in the area of Taxco de Alarcon, Guerrero, Mexico (including the communities of Taxco el Viejo and Tecapulco) in October and November of 2008. Interviews were conducted in Spanish. Secondary data was compiled from a variety of sources including statistics publicly available through INEGI and UNCTAD. Participant demographics include representation from both genders between the ages of 18-70. Secondary data was compiled from English, Spanish and French language sources.

Interviews were completed with seven artisans, a cooperative president, two spouses of artisans, two suppliers and two business owners. Two focus groups were completed, one with UPA and another with Taller Azul. A significant amount of data from ARTCAMP's website and social media sites was also included. The site contained a substantial amount of unconventional material including personal letters, hand written notes, financial audits and production notes, newsletters etc.

The livelihoods framework and approach was used to identify areas for research, to formulate interview questions and to direct data collection. The framework was also used in identifying implicit links between variables. The research questions were addressed through a qualitative, comparative case study which used field research as the primary means of data collection in examining rural livelihoods, microenterprise and e-commerce. This approach was chosen to provide a holistic view that illustrates the linkages between e-commerce, livelihood strategies, vulnerabilities and the overall effect on livelihood outcomes with a micro-level data collection.

Interview topics and areas of data collection were chosen based on elements adapted from the rural livelihoods framework, including examining human, physical, social and financial assets. Initially, purposive interviews were scheduled to gather information from pre-determined informants. Next, chain sampling was used to identify participants who could contribute further knowledge through informal, individual interviews. Key informant interviews and focus groups were also employed. Field notes were taken to gather contextual data.

Data was analyzed using a combination of methods. Open coding was used to arrange themes within the participants' responses. Additionally, Miranda Cahn's (2006, 59) table of classifications of microenterprises and Richard Duncombe's Typology of information roles for livelihoods strategies were used in data analysis. Cahn's classification draws on work from Bennet and Goldberg 1993, 20; Miller and Clarke 1990, 516-517; and Chen 1996, 8. The final discussion within this thesis follows a structure adapted from the framework of the sustainable livelihoods approach.

Secondary data was collected from the archives of government offices, NGOs, community-based organizations and local universities, including national policies related to microenterprise, telecommunications data, and other information about institutions and processes unique to this case study. ICT data was collected through Mexico's National Statistics, Geography and Informatics Institute (INEGI). Some e-commerce data was collected through the same institution. Micro-level e-commerce data was collected through interviews with artisans and other participants.

Qualitative research offers several advantages for data collection in this project. Open-ended and semi-structured interviews allow participants to tell their story in detail. The details provided by participants also allow for culturally significant information to be shared that would likely not be captured by quantitative surveys. Semi-structured interviews also allowed for participants to elaborate on subjects of importance in this study that were not initially identified by the researcher in prepared questions.

As previously indicated, sampling was determined through both purposive and chain referral methods. In order to be better prepared for the field research process, two groups with similar attributes were selected (artisan collectives in Taxco municipality working to sell silver jewellery abroad). Once in the field, these initial contacts provided links to other contacts that may have otherwise been unreachable. By interviewing people within the same networks and along a value chain, greater perspective could be gained.

The initial methodology that was developed consisted of a comparative case study of Artesanas Campesinas (ARTCAMP), a women's cooperative based in Tecapulco, Guerrero and Union Progresista Artesanal (UPA), another cooperative located in

Tecapulco's sister village, of Taxco el Viejo. Regrettably, ARTCAMP indicated shortly before my arrival that they were not able to participate in interviews or focus groups during my time in Mexico. However, their website, newsletters and other publicly available information included substantial data relevant to my research questions. A review of the information included on the ARTCAMP website was completed.

In order to mitigate any gaps in data collection additional participants that fell along the value chain, a common data source for analysis in the fields of commerce and marketing, were also sought out. These included two independent home-based artisans, two groups of artisans employed in traditional enterprises and two additional businesses. Opening the research beyond artisan cooperatives in this way provided a more holistic view from a variety of perspectives.

Each of the groups under study provided a variety of insights into issues including enterprise structure, types of ICTs used and sophistication of e-commerce adoption. Similarities were present in demographics, geographical location and type of goods. Including these additional groups allowed the methodological structure to remain consistent (comparative case study), with the comparison expanded to several groups rather than only the initial two. It is important to note that UPA remained the most accessible group of the study participants, and thus provided most of the observational data.

A field research approach was necessary to gather information at the individual level, as there are few studies of artisans and technology at the individual and household level. Generally, research on artisans and e-commerce has been limited to large

marketing cooperative groups and has focused on the success of the cooperative rather than the individual. Field research afforded me the opportunity to provide greater understanding of the household reality for artisans in Guerrero.

Field research was completed in the fall of 2008 in Taxco de Alarcon and Taxco el Viejo. In order to mitigate some of the issues that could inevitably arise from approaching artisans independently, I contacted several international NGOs who work with artisans and crafts organizations within the Taxco area, including those with experience with both UPA and ARTCAMP. ARTCAMP was contacted directly through information provided on their website, while SERV International provided an introduction to UPA. Where appropriate, interviews were completed in the homes of artisans. Focus groups took place in workshops. The village of Tecapulco, where ARTCAMP is located, was visited but no interviews were undertaken there.

Data triangulation was achieved through a variety of qualitative approaches common to field research including space triangulation and person triangulation. Space triangulation, a typical form of comparative study, was achieved by including various groups within the study to improve validity. Person triangulation was achieved by including data from the individual/family/household level, the enterprise level, the village level and the state level.

The research conducted for this thesis adhered to the guiding principles of the Canadian Tri-Council Policy Statement: the respect for human dignity; the respect for free and informed consent; the respect for vulnerable persons; the respect for privacy and confidentiality; the respect for justice and inclusiveness; and minimizing harm and

maximizing benefit. Additionally, prior to fieldwork being undertaken, the Saint Mary's University Research Ethics Board approved this research project. Informed consent was required from all participants preceding their participation in the study, including during observation. Consent was achieved both verbally and by signing written consent forms when possible to accommodate participants with minimal literacy skills.

Limitations

Though my Spanish greatly improved throughout my time in the field, I faced limitations in my understanding during initial interviews. Given the close relationships that I developed with many of the participants I was often able to clarify details at a later date. Interviews were recorded and then professionally transcribed and translated by a Mexican transcriptionist and translator.

There were also challenges in data collection. Participants were uncomfortable speaking about their own income. When probed they would often relate income in terms of multiples of minimum wage and what was necessary for survival. Proxy measurements were frequently used to provide comparisons between case studies when necessary and possible. Though Mexico has a high rate of remittances, participants did not include these in their discussions of income. It was widely understood that remittances were received, however it was not appropriate to discuss them during interviews, as income tax is not generally paid on these funds and interviews were being recorded and/or witnessed by other community members.

In addition to problems identifying income, participants generally seemed to have difficulties articulating business concepts and models they employed. In many instances, it seemed that operating the micro-enterprise was secondary to craft production. Artisans identified themselves as producers, rather than business owners. This focus in identity

mirrored their livelihoods approach – the focus was less on the business and more on the craft.

Not all artisans in the identified geographic area were included in this study. The use of a case study methodology limits the findings to the specific cases included and generalizations cannot be made for all artisans within the geographic region. However, the use of case studies does allow for in-depth details and insights into the specific cases included.

In examining rural livelihoods, microenterprise and e-commerce, a qualitative, comparative case study methodology allows for triangulation in research on several levels, and incorporating field research as a primary means of data collection allows for in-depth analysis at the micro-level. Using an approach which can provide a holistic view, including linkages between the micro and macro, helps to better illustrate the connections between not only between e-commerce, livelihood strategies, vulnerabilities but also between the high-level policies and programs intended to support poverty reduction and their actual outcomes.

Chapter 5. Case Study & Data Presentation

Artisans in Taxco have many ICTs available yet few engage these tools in their livelihoods activities and business strategies. A review of the ICTs that artisans have at their disposal as well as the way in which these ICTs are used, can provide insight into the barriers that artisans face in accessing and implementing ICTs within their livelihood strategies. Additionally, looking at the complexities encountered by artisans, households and micro-enterprises helps to illustrate a more holistic understanding of the limitations of the programs, policies and institutions intended to support them.

The two main case study groups to be reviewed are similar in many instances. They are subject to the same policies, institutions and processes as well as many of the same vulnerabilities and shocks. As will be illustrated, both groups have many similarities in assets. Therefore, differences in strategy and business approach to ICTs and e-commerce, according to the literature, should provide diverse outcomes. This chapter includes socio-demographic information on the case study region, a history of the development of the industry studied and an overview of the groups included in the case study. Data collected from the field through interviews, observation and secondary data are also included - all which will further contribute to illustrating the livelihood outcomes of study participants.

The Region: Taxco Municipality

Guerrero is a mountainous region extending approximately 100 km southwest of Mexico City to the Pacific coast. Bordered by Puebla, Michoacan, Oaxaca, Mexico State and Morelos, Guerrero is home to 3,115,202 inhabitants. Taxco municipality is the state's fifth largest urban area with a population of 50,415. The three communities included within the study are Taxco Alarcon, Taxco el Viejo and Tecapulco. A summary of municipality demographics by community is included in Table 1.

Table 1. Municipality demographics

	Guerrero State	Taxco de Alarcon	Taxco el Viejo	Tecapulco
Population (2005)	3,115,202	50415	2932	1515
Literacy Rate (%)	78.4	94.2	88.5	87.1
No Education (%)	21.4	5.9	12.4	12.7
Incomplete Primary (%)	20.1	32.9	49.6	41.5
Primary (%)	17.2	19.7	13.2	25.5
Post-primary (%)	40.3	39.5	23.5	19.8

Source: INEGI 2000, 2005 Population Census

Municipality microenterprises

According to INEGI statistics, in 1998 there were nearly 81,000 registered enterprises in Guerrero state, of which 79,420 were microenterprises. Two out of three of the cited microenterprises were believed to be informal. The following table outlines employment data in Taxco Municipality (INEGI 2009):

Table 2. Taxco Municipality Employment Statistics³

	Percentage
Economically Active Population - Employed	99.2
Employed in Manufacturing	12.9
Manufacturing - Paid Employees/Workers	42
Manufacturing - Self-employed	44.4
Manufacturing - Unpaid - Workers & Family Workers	13.6
< Min Wage	16.7
1-2X Min Wage	34.4
2-3X Min Wage	17.5
<24 hours worked per week	37.4
25-40 hours worked per week	18.7
41-64 hours worked per week	26.2

Source: INEGI 2009

The data provides general information regarding employment sectors, income and hours worked per week. However, indicators of well-being are not evident in aggregated data. For instance, a comparison of hours worked by hourly rate might indicate that those with lower income levels increase their hours worked to increase their overall income.

³ At the time of study, minimum wage in Guerrero was Mex\$49.5 and Mex\$9.3/\$1 CAD.

In looking at the craft sector specifically, further background in history, culture and programs available to artisans is an important element in understanding some of the unique challenges that artisans encounter. Craft is a very important aspect of contemporary Mexican culture. Rural craft can be grouped within non-farm activities in the manufacturing sector. Craft as livelihood refers to a holistic understanding of the way of life of artisans. Approaches to artisan development are generally economic or cultural in focus, rarely both - handicraft production is either supported as business or art. According to Morris (1996), craft can meet different economic, social and cultural needs, depending on the approach taken. However, it is unlikely to meet all three areas of needs.

Crafts are created for four different markets: functional wares, traditional art, designer goods and souvenirs. Functional wares are usually created in a workshop or factory that mass-produces handmade goods for national or export markets. The focus is on creating employment. Traditional art refers to ethnic crafts that are generally marketed locally, supported by local interest in the culture. They are often of higher quality and preserve social and cultural values. While traditional crafts exist in many forms in Mexico, and Mexican authorities would undoubtedly argue that silver jewellery is a part of the pre-Hispanic tradition, the silver industry in Taxco is relatively new, fuelled by American William Spratling's enterprise in 1931. Designer goods may be based on local crafts but are adapted to suit foreign trends. Souvenirs are almost always inexpensive, simplified traditional crafts for local vending. This research project included artisans producing wares within each of the four groupings.

Current policies are somewhat progressive, exempting artisans from some taxes and providing credit for raw materials for traditional crafts. The government also creates national and international travelling exhibits promoting craft. However, because the majority of crafts are contemporary in design, at least 65% of artisans are unaffected by government programs. They are essentially falling between the protections provided to industrial workers and celebrations of national identity attributed to traditional craft people. The craft industry in Guerrero employs some 200,000, accounting for 7% of the state's populations (Guerrero, 2005, 85).

Silver jewellery artisans make up a significant proportion of industry in the state of Guerrero. Historically, at the time of the first silver boom in the late sixteenth century, seven refining facilities were located in the regions surrounding Taxco. Since independence however, silver mining in Guerrero has steadily dwindled. Taxco el Viejo was the site of one of the largest haciendas in Latin America. The ex-hacienda San Juan Bautista, founded in 1555, was a productive silver refining facility for over two centuries (La Jornada Guerrero, October 23, 2008).

Silver jewellery is one of the most requested products by export markets for Guerrero state. In 1999 silver jewellery made up 41.6% of state international exports, and by 2003 exports had grown to 54.6% (Guerrero, n.d. 18). The same is true of national statistics for jewellery exports, which grew 185% over a six-year period beginning in 2000. During the same period imports fell by 48% (Guzman 2006, 13).

Artisans in contemporary Taxco and the surrounding communities “transform approximately four tons of silver ore on a monthly basis, into fine crafted jewellery and

hollowware” (Morrill 2002, 126). Taxco is believed to be home to more than 800 silver shops. It is estimated that there are between 4,000 and 7,000 private workshops, many of which are legally recognized businesses. Others are a part of Mexico’s informal economy (Morrill 2002, 129).

The microenterprises included in this study all work with metals and various grades of products. Tourist-grade products were widespread in Taxco. The most basic products studied were assembled using purchased alpaca metal bases which artisans then completed by setting hand cut abalone pieces and resin finishing. Also common was complete manufacturing of similar products by hand. Tourist-grade products were identified as being made of alpaca metals. Most silver jewellery products studied (.925 purity) are classified as commercialized traditional products. In this study this classification is further defined as being hand-made with limited mechanization.

In Cahn’s description, traditional products were suggested to be the most basic. However, traditional Taxco silver products (starting in the Spratling era) would be considered to be of higher quality than the commercialized products of today. Complementary finishing materials like semi-precious stones, non-precious stones and woods are also of higher value than resin and abalone. High-end traditional products are identified by the highest quality production from only the most skilled artisans in the region. There are very few artisans in Taxco who fall within this category, however, their work is in many cases highly visible and celebrated. Artistic metal work is even less common. While materials used within this category are of lower quality than high-end

traditional products, the products command equally high prices though the market for such products is more limited.

Microenterprises in the Case Study

The studied microenterprises included both formal and informal businesses, cooperatives, and family-run operations, as well as traditional private enterprises made up of wage labourers. A description of the main case study groups, UPA and ARTCAMP, are included below, as are brief descriptions of the additional study participants.

Following the written descriptions, UPA and ARTCAMP are classified for comparison.

Union Progresista Artesanal

Union Progresista Artesanal, is a small artisan cooperative in Taxco el Viejo that was started in 1996. According to the president, the cooperative currently has approximately 20 members. Only 10 members were seen at the cooperative during the four-week study (additionally, cooperative members only counted 10 member when asked). Of members present, 9 were men and one was a women, ranging in age from 20 to 73. Two additional young women assisted with packaging as needed. When asked about the gender disparity, participants noted that metal working can be physically challenging and that women generally prefer to find positions that allow them to stay in the home with their children.

The collective's workshop is a large concrete building with three separate rooms. One room is used as an office space, another is the workshop and a third is used to package and finish pieces for shipments. The workshop consists of two long tables surrounded by various machines for use in fabricating jewellery. Tools are owned by the

cooperative though members often have additional tools at home for their own use. Work is done by hand with very little mechanization. Preparing pieces for shipping (testing, cleaning, individual packaging) is completed by women from the community who are hired on a contract basis. The workshop's office has two computers, one printer, two digital cameras, a fixed telephone line, a fax machine and high speed Internet access. The computers were observed to have little business use beyond email correspondence with clients. All Microsoft Office files on the newer computer were locked due to a technical problem. Business invoices are completed with a typewriter. Computer skills of cooperative members ranged from none to basic. Of the members present, only two had personal email accounts and three had computers in their homes (mostly for their children's use).

All products made by UPA are sold internationally. Shipments generally occur through well-known shipping providers (DHL, Fedex) which are located in Taxco. Price discounts are achieved not through business client account discounts but by haggling with various shipping providers. Incoming orders and communication with clients were observed to take place most often by email. Products are currently being sold in retail stores abroad and online. These sales take place through private enterprises and aid organizations specializing in handicrafts (Ten Thousand Villages, SERRV International). Products are sold wholesale to these organizations with a minimum purchase of \$1000. In general, these organizations assist artisans by providing partial payment in advance, which can be used to purchase supplies to fill the order.

Products typically retail online for \$10-20. UPA product pricing is determined by using the following pricing structure: “60% - wages and materials, 20% - administration, accounts, office expenses and taxes, 12% – reserves and 8% - community projects” (Trade Aid website). The collective is a member of International Federation of Alternative Trade.

The cooperative has a few marketing materials at their disposal. The most recent marketing piece is a digital catalogue of approximately 100 pieces. The catalogue was created in PowerPoint and it has been burned to CD. It is a functional piece that includes photos, prices and product names. Other available marketing materials were published several years earlier (brochure, printed product catalogue, postcards). The cooperative does not currently have a website, though a URL was listed on an older brochure. There was a short time when UPA had a website and used the Internet to sell products (B2C). The practice was discontinued due to the high costs on relatively small orders. When prompted, the president indicated that it required too much cost and work to upkeep and the group could not meet consensus to keep the site running (personal conversation, October 2008). All materials were created in English, some more effectively than others. The cooperative does not have a logo.

UPA’s goals are well documented and all members were easily able to articulate the aims of the group: to “raise family incomes by producing and marketing their products collectively and to promote community development projects” (SERRV International website, Artisan Bio). These goals were supported by purchasing raw materials in greater quantities at lower costs; keeping stores of materials; and actively

planning and executing community development projects. The cooperative also identified goals of increasing sales and ensuring members access to tools and machinery (silver plating etc.) which would otherwise be unavailable for most individuals (Trade Aid website).

UPA strives to fully employ cooperative members through jewellery production. Membership was limited to ensure that this remained possible based on incoming orders and sales. However, even with constrained membership, the group struggles to maintain the livelihoods of its members. While most members indicated that UPA provided their only source of income, at the family level, members usually had additional sources of income. Spouses of male members had employment in other areas while also assisting UPA members in the evenings with resin and abalone finishing. One male member indicated that he played music professionally in the evenings one day per week.

While migration can be a serious issue in Mexico, UPA seems to have been successful in limiting migration for seeking employment. Only one of the members indicated that he had lived in the USA and this was before he had joined the group.

Previous generations living in Taxco el Viejo would have been involved in farming. UPA's president indicated that he had owned farmland in the town several years before (Manuel Alvira Diaz, personal conversation, October 2008). However, few residents remain dependent on subsistence farming. While formal statistics are not available, it is evident by walking through the town that most families are involved in jewellery production. Open-air workshops at most homes can be seen or heard from the

street. Jewellery production is so prolific in Taxco el Viejo that even the corner grocery stores stock relevant tools and machinery.

UPA is unique in that it is one of very few cooperatives in the area. Other cooperatives that do exist are marketing cooperatives where members pool together simply to sell products individually. Salaries are dependent on the individuals' designs selling – if their own product doesn't sell they will not receive any form of payment. Members cited *Jose de la Borda* as an example of one of the few other local cooperatives, which follows this model. At UPA all cooperative members are paid regardless of the success of their designs. Work on larger orders is completed collectively and it is generally accepted that designs belong to the collective.

UPA has a high-level of social capital – the group has many connections within the community. On a group level, they have facilitated community clean-ups, school donations and support to youth programs. In the future they hope to extend assistance through capacity building programs with a remote indigenous community involved in basketry. The president of the cooperative indicated that he would like to employ more women and hopes to begin community development projects targeting women – particularly those left alone by spouses forced to seek employment abroad (personal conversation, October 2008).

The main concerns members cited were regarding the future of the collective. First, they believe that similar products created through mechanized Asian production are flooding the markets and lowering the price consumers will pay in international and national markets. In addition, they cited encountering difficulties with understanding

trends in multiple markets. Finally, many members were concerned about creating new designs – even though most consider themselves designers by trade.

Artesanas Campesinas

ARTCAMP is a women's non-profit, worker-owned, producer cooperative located in Tecapulco. The group formed in the 1990s and became legally incorporated in May 2000 as Artcamp Sc de RL (though members site initial projects beginning as early as the 1970s). The group consists of more than 20 members, each with individual roles as artisans, marketers and administrators (one of the key differences between ARTCAMP and UPA). The cooperative is comprised of an official representative and four additional members of the legal entity. At least eight artisan families derived primary income through ARTCAMP, with each family being represented by one family member during assemblies. The group also draws on the skills of a computer technician and webmaster. ARTCAMP is a member of the Fair Trade Federation, the Crafts Center (Washington, D.C.) and the Global Marketplace.

ARTCAMP formed in order to mitigate several self-identified risks created by globalization: forced displacement through migration in search of employment, market saturation of international imports and lower cost products created in India, China and Thailand. In the 1980s hundreds of local families were working in jewellery production during a surge in international demand for abalone and Mexican silver jewellery. By the 1990s demand dropped and community members were struggling to find livelihoods that could support their families. As men began to migrate to seek employment, several local women focused on collectively creating stability in employment. The women began

selling products online, initially to directly to consumers and later to businesses. As the collective was able to take on larger projects, they also actively increased community development projects.

ARTCAMP has had much attention worldwide culminating in receiving the prize for Women's Creativity in Rural Life from the Women's World Summit Foundation in Geneva. Additionally, the group received media attention when they made an online plea to the US government to return the men from their village who had moved to the USA seeking employment as undocumented workers.

Unfortunately, ARTCAMP encountered challenges during the economic recession that seriously affected their operations. According to both group members and international partners, the collective had effectively been forced to cease operations by 2008. However, ARTCAMP continued to exist on the Internet with their websites active as late as 2013. Products remained available for purchase on a per order basis; however, the group was unable to meet livelihood demands of members. On their website, ARTCAMP sites the migration of men from their village in search of employment as a direct cause of the decline in their business activities. In this case, it may seem that they are downplaying the challenges they encountered in using an e-business model. However, a personal email with Fortunata Reyes, an ARTCAMP member, was more direct "E-commerce does NOT work for 3rd world artisans because of the barriers that are established to keep the producers from competing in the market" (personal email, September 17, 2008).

Livelihoods are seasonal and fluctuate between farm and non-farm activities. Tecapulco is an indigenous community of small & subsistence farmers. Traditionally, the village economy was agriculturally based with “rainy season cultivation of beans, squash, and corn.” Handicraft production historically has been used to meet cash income needs. ARTCAMP works “to connect the rich handicrafts tradition of our community with the present day global markets in order that we can provide for our families” (ARTCAMP e-Newsletter, Our Goal). The cooperative dreams of recreating the flourishing cottage industry of the 1960s in Tecapulco through handicraft production of fashion jewellery. As identified by ARTCAMP, during this time hundreds of artisans in the village were able to sustain livelihoods through jewellery-making. “For the majority of families, cottage craft production is the means by which one might meet the daily demands of irreducible necessity.” (ARTCAMP e-Newsletter, the Agricultural Artisans).

As discussed, the community has been subject to substantial migration to the USA (ARTCAMP estimates that more than 30% of adults are currently living in the USA which is not reflected in census statistics), citing the USA as the largest employer of community members. Other major employment sectors are masonry, mining, agriculture and other crafts.

ARTCAMP has put much focus into human capital development and capacity building. They have actively created educational opportunities for community members that directly link back to the needs of the cooperative. In addition to ensuring skills development in jewellery production techniques, ARTCAMP has focused on training young women in English language, HTML and bookkeeping. Trainees then return to

work with ARTCAMP, allowing them to be employed in their local community. These trainings can be quite substantial, as identified in the ARTCAMP e-newsletter: “Some members of our cooperative have worked for nearly three years to learn the HTML code and the programs necessary to be able to be able to create our web site” (ARTCAMP E-Newsletter, July 3, 2008). Two young women from the cooperative apprenticed with Don Marcial Chavez Embriz, a master modelmaker from the Spratling era. Contadora’s Campesinas was a modest scholarship program for young women to study with a licensed accountant while providing the bookkeeping for a community development project.

The cooperative has worked on two major community initiatives: the donation of ophthalmic equipment to the Adolfo Prieto Hospital in Taxco in 2001 and the Tecapulco Water Project. For the hospital project, ARTCAMP coordinated the donation of equipment through an Ohio-based company and solicited free shipping from DHL. The Tecapulco Water Project was focused on repairing a damaged dam upstream from the community and creating several reservoirs to ensure water access for community members during the dry season.

According to a 2001 external financial statement audit completed by the Fair Trade Organizatie of Holland, income paid to artisans and workshop staff amounted to \$84,482 USD. Artisan families made approximately \$3000/year, while staff were paid approximately \$4000/year.

In terms of physical assets, ARTCAMP has many tools, technologies and facilities at their disposal. Though rented, at the time of field research they had a workshop in Tecapulco with office facilities located in Taxco. However, they still

identify themselves as a cottage industry with home-based workshops. They also own digital cameras, computers, a scanner, software (Adobe Photoshop and MS Powerpoint) and phone, fax, cell, and Internet access.

ARTCAMP began efforts to employ an Artisan Owned Direct Distribution Model (AODDM) in 2002. They submitted a funding proposal to seek financial assistance in design, development and implementation. The distribution model aimed to provide factory-to-door delivery of products, and to develop a website catalogue, CD-ROM catalogue and print catalogue. The goal of the project was to eliminate the distributors by providing products directly to retailers or consumers at a lower cost, and in a timely fashion. It was argued this could be accomplished through creating a shipping and fulfilment facility where finished and partially finished inventory would be held in stock for immediate delivery. The process was to be supported by using several ICTs including a database to integrate sales, production and delivery as well as a modern marketing campaign. Though the project did not receive funding, ARTCAMP further developed their websites to include online ordering and payment capacity for consumers and retailers.

ARTCAMP marketing materials are prolific in digital format. Their website has had at least three substantial overhauls since its inception, and as of 2013, at least four independent URLs can be attributed to Artesanas Campesinas: (<http://ethical-fair-trade-jewellery.org/>, <http://artcamp.com.mx>, <http://proveedores-joyera-artesanal.com>, <http://fabricantes-accesorios-bisuteria.com>). ARTCAMP hosts an online store through their own URL (<http://artcamp.com.mx>) and through the Peoplink open entry catalog

(<http://catalog.openentry.com/artcampb2c/>), a non-profit online market intended to link consumers directly with artisans. Products are listed both for individual retail and wholesale.

In 2012, the quality of ARTCAMP's product documentation increased dramatically, as did their social media presence. Ixchel Nava began photographing the pieces created by Artcamp in a fashion format using a digital SLR camera. These photos can be found on the ARTCAMP websites, as well as on Ixchel's flickr account (<http://www.flickr.com/photos/art8house>). Social media presence could be found on YouTube, Facebook and Pinterest among others.

ARTCAMP has identified several challenges that have affected their success: difficulties connecting with strong markets; limited connections with national markets; lack of inventory to quickly supply products; limited national market access and insufficient orders to employ artisan families (ARTCAMP website, Xalitla Presentation). Consistent, gainful employment is a serious issue for artisans. At the time of field research, one member indicated that nearly all other members had migrated to the USA to seek more lucrative employment and reunite with husbands who had left earlier. "We estimate that we need to be selling about twice the amount we have been presently in order to reach a minimum level where our enterprise would be viable." (ARTCAMP e-newsletter, Our Goal).

Other participants

Several private enterprises were interviewed to provide perspective on the two main case studies. Artisans from the following workshops participated in focus groups: Taller Plata Azul and Sucesores de William Spratling. In addition, UPA participated in a focus group session. Two independent artisans, a retailer and supplier also participated in interviews. Brief descriptions are included below of each group as well as insights into their livelihoods.

Taller Azul Plata in Taxco del Alarcon is a small workshop that is open six days a week, employing five artisans. The administrative office is located in another area in town. Taller Azul currently focuses on creating products for exportation. At the time of field research they owned a basic website providing potential clients with contact information. Most orders are received by email or telephone. The workshop is not run as a cooperative – artisans were able to provide little input into business strategies and decisions.

Sucesores de William Spratling is located on a sprawling estate in Taxco el Viejo. It is both a workshop and permanent residence for at least one artisan. The business is Italian-owned. Products are sold in high-end overseas markets and nearly everything is completed by hand. The workshop currently employs five people as artisans. Three are regularly present in the workshop while two work from home or as needed.

Several other artisans who worked in the informal sector were included in the study: Nicolasa, a single mother who worked with the assistance of her daughters to

create tourist grade products; Salvador ‘Chacon’, an artisan who focused on metal works of an artistic nature; and Maria Felix, a former artisan, spouse of UPA’s president and current supplier of abalone.

Nicolasa has been working independently in alpaca with abalone inlays for 20 years. She can make approximately 150 bracelets per week to sell generally to national and international tourists in the local silver market. Her products are sold for M\$10, giving her a potential maximum commission of approximately \$150 per week. She can produce 150 bracelets in one day. Products are often sold wholesale with orders of 200-300 pieces. Large orders are usually made at the market or sometimes directly to her home and are sold at a reduced rate (up to 50% less). Two of her daughters assist her in her work. She indicated that she does not have any other form of employment.

Chacon is a local artisan and artist in Taxco el Viejo. He works in carpentry, as a metal smith and as a metal sculpture artist. His artwork is sold through a shop in Taxco specialising in handmade pieces. He is able to complete a maximum of one piece every three weeks. He is paid approximately \$400 per piece. The pieces generally retail for three times the price that he is paid through local and national craft shops that cater to tourists. His items are unique and artistic in nature. He has been able to skirt competition in Taxco by finding a niche.

UPA’s president’s wife, Felix, supplies abalone to local artisans from her home. She has been working in abalone for more than 20 years. During the day she manages the abalone shop and, as with other wives of cooperative members, she also assists with

finishing resin pieces. In addition to both of these part-time positions she bakes cakes and other desserts to sell to local families.

Marta is a shop owner in Taxco specializing in silver jewellery and textiles. She owns a small, well-stocked shop on the first floor of her home on calle de Veracruz called Plateria Marta. At the time of the interview, the shop had approximately 300-400 pieces of jewellery on display. Additional pieces were kept in storage within the shop front. The participant has been involved in silver since she was a child. Her parents worked with silver, as do her children currently. She had many pieces for sale that she said were designed by her sons.

Comparing microenterprises

A general comparison of UPA and ARTCAMP (Table 3) is helpful to illustrate similarities that exist despite their different approaches with regard to business strategies, ICT usage and maturity in e-commerce adoption. A classification of these microenterprises provides the starting point to evaluate differences in livelihoods strategies and outcomes.

Table 3. Microenterprises in Taxco, a comparison of ARTCAMP and UPA

	ARTCAMP	UPA
Enterprise Structure	Women's cooperative with separate administration, significant separation of tasks	Cooperative headed by elected president with all members working as artisans, some artisans handle additional responsibilities
Enterprise Maturity	Growth oriented, struggling to reach maturity (according to Cahn's classifications)	Growth oriented, nearing maturity (according to Cahn's classifications)
Business Strategy	E-business focus with B2B e-commerce	Focused on design, developing current client relationships with limited use of ICTs
Employment	Self-employment (all are cooperative owners)	Self-employment (all are cooperative owners), employment of some seasonal workers, spouses assist through unpaid labour on some projects
Product Type	Traditional products adapted for international markets Mainly tourist-grade products with complete production	Traditional products adapted for international markets Some tourist-grade products with complete production – generally more silver products that ARTCAMP
ICT Usage	Extensive ICT usage	Many ICTs available
e-commerce	Open entry system (B2B) Developed Artisan Owned Direct Distribution Model	Only third-party e-commerce Closed B2C e-store
Markets	Mainly USA , some NGOs though mostly private	Spain, Italy, Canada, USA, NGOs
Affiliations	IFAT member Support from international NGOs Public partnerships Private partnerships (a portion of sale paid on order)	IFAT member Support from international NGOs (Trade Aid, SERV V, Ten Thousand Villages) Government funds/programs (FONAES) Several members are from the same family and have maintained leadership succession

By classifying enterprises, some of the differences between UPA and ARTCAMP become apparent. Similarities include the size of the cooperatives, sector of activity, type of products and supporting organizations. Differences exist in the gender of participants, organizational structure of the cooperatives and the focus of business strategy of each group. All members of UPA are artisans. ARTCAMP differs in that the artisans are led by a group of administrators. The administrative group in many ways takes the lead in business development – illustrated in one way by the higher salaries afforded to administrators. Interestingly, it is UPA who was observed to be closer to reaching maturity than ARTCAMP when categorized according to Cahn’s classifications.

UPA’s organizational focus has been on strengthening product design while ARTCAMP has focused on increasing online outreach and development of e-business. Despite an overall focus on e-business strategy, ARTCAMP still seems to struggle in comparison to UPA in the level of economic activity, particularly in the period leading up to the economic crisis of 2008. It is likely that UPA’s focus on design and developing stronger relationships with current clients, while continuing to use traditional communication measures with which they were comfortable resulted in slight but significant growth in Cahn’s maturity classification.

Reaching the micro-level

Further information gathered from the participants is highlighted in the following section. Building on the previous comparison and focusing as much as possible on the individual level, the information in the following section was collected from participants and is presented through the livelihoods framework.

At the most basic level, microenterprise is linked within the livelihoods perspective as a strategy for reaching the desired outcome: maintaining a sustainable livelihood. The microenterprise structure is extremely important in the case study findings. Both ARTCAMP and UPA are cooperatives. The structure allows members to stabilize wages and pool scarce resources. Collectives focus on the benefits to the group overall rather than the individual, and in this case this perspective extends to the community. Other microenterprises included in the study had lower levels of social capital and also offered less benefits to the communities in which they operate. All cooperative members interviewed believed that membership provided them higher and more stable incomes than could be achieved alone (UPA focus group interview, October 30, 2008).

Microenterprise as a strategy did not exclude other strategies from being employed – artisans still diversified their income generating activities at the firm, family and individual level. At the firm level, ARTCAMP diversified their products significantly: as the demand for their jewellery products dwindled, the cooperative expanded their activities to include writing romance novels and developing a CD-ROM language course. Unfortunately, neither of these activities appeared to generate significant revenue as would have been evident by a greater shift in focus. At the family and individual level, UPA members employed the following diversification strategies: members or their spouses held additional part-time jobs in other sectors or owned other microenterprises. One spouse explains her employment pattern:

“Previously I worked setting abalone shells, first with my parents then with my husband. I began to be too tired to work on the shells while caring for our children too and the machinery is very dangerous. We opened a tent selling food. Now I sell abalone to artisans. Sometimes I also sell cakes for parties and jewellery.” (Maria Felix De Alvira Bahena, October 30, 2008). These employment patterns testify to the use of diversification as a primary means of withstanding shocks. Another artisan from UPA described the diversifications that he and his wife applied: “I work only in silver for 10 or 12 years. My wife works selling food at the University but she also helps me cast resin parts and to clean and polish the pieces. Our wives have a valuable role in the finished pieces.” (Saul Alvira Diaz, interview, October 30, 2008). These employment patterns testify to the use of diversification as a primary means of withstanding shocks.

Outside of ARTCAMP, there was very little application of agriculture within livelihoods in the case study group. Some families partook in subsistence farming on small garden plots or had chickens for eggs and meat – however, none of the families interviewed relied on these activities as a source of income. All income-generating activities discussed by participants were non-farm based. UPA’s president noted the move away from farming: “ten years ago before joining the cooperative, I was working the land. The situation was much more difficult – we were all peasants” (Manuel Alvira Diaz, focus group, October 30, 2008). The shift away from agriculture suggests that, in this case, working in craft offers higher returns.

Migration is also a common strategy for diversification in Taxco Municipality. While migration is common in all areas of the municipality, the village of Tecapulco and

some of the members of ARTCAMP made their struggle public by creating a website demanding that the US government enforce immigration policies which would see the return of their husbands to Mexico (Washington Times, January 26, 2007). For many ARTCAMP members, working in the cooperative is a means to bring in the sole income for their families. For UPA members, the cooperative is a means to avoid migration. Only one member had lived in the USA and that was before joining the cooperative.

While Mexico has previously offered protections to artisans, federal, state and municipal governments have more recently neglected the sector. Programs offered have been limited to courses in design and grants for participation in fairs and exhibitions. One UPA member indicated that the fair in particular is not helpful for local artisans, comparing it to a celebration of only the most high-end products: “the fair is not the best because people only make small purchases and we have to send two people who would otherwise be working on orders (Saul Alvira Diaz, interview, October 30, 2008). The president corroborates: “the awards are only given for large pieces from famous designers” (Manuel Alvira Diaz, personal conversation, November 2008). There were few other supports offered through government initiatives – none of which were accessed by the cooperatives interviewed.

Artisans in rural Guerrero have several market points available to sell their wares. The participants accessed markets at the following points: street sales, markets, retail stores, wholesale distributors and e-businesses. A review of each of these market points is outlined below, followed by common barriers to market access encountered in each area by the case study participants.

Artisans can be found throughout Taxco both walking the streets looking for buyers or settled along sidewalks displaying their wares, which range from textiles to basketry, pottery, and jewellery. Street sales present the most basic market access point but it is also the lowest price point for artisans' products. There is very little overhead required to sell wares by this means – however, risks are high for both the producer and buyer.

While financial capital may be lower for market entry for street vendors, artisans will net lower prices for their wares too. Personal relationships are extremely important in the sale process, and lacking a fixed location hampers relationship development. Street vendors are also believed to sell lower quality products. For the buyer, there can be little recourse if unsatisfied with the product. Tourists are encouraged by service providers to shop in stores where products are more formally acquired and quality can be better guaranteed. However, it is widely believed that service providers benefit from these recommendations through commissions. One shop owner explains: “In the city we are most effected by tourism guides who make commissions to bring customers to specific shops. They take customers to expensive shops so that they make more money” (Marta Arroyo Sanchez, interview, October 31, 2008).

Safety can also be an issue for the street vendor. Local shops tend to push away street vendors who are considered a nuisance, though it is not clear whether the perceived nuisance is due to prejudice or fear of competition. Indigenous villagers often come into towns to sell products to tourists as street vendors. “It can be difficult trying to sell on the street - people will try to take away your goods arguing that we must sell in the stores.

All we want is to sell our products to survive” (Maria Felix De Alvira Bahena, interview, October 30, 2008).

The Saturday Silver Market (*Tianguis*) presents a more structured method to connect to the market frequented by tourists, middlemen and retailers. Vendors sign lease agreements and are provided with fixed locations within the market space. A range of products in terms of quality is available at the *Tianguis*, ranging from low quality alpaca tourist products to much higher end .925 silver designs. There is also a range in type of vendors including individual artisans, family enterprises, retailers and large wholesalers. Competition is high, though prices are set by weight, preventing to some extent undercutting in pricing. Sellers weigh products to determine their value during a sale transaction and provide receipts when requested. Some larger vendors are able to provide electronic transactions, though most operate in cash only.

The market provides a safe setting for both vendors and consumers to purchase silver goods. One of the main benefits of this market is low entry cost for artisans. The high amount of visibility means that there are limited marketing needs. For consumers, many sellers can be found within the same area.

Some of the difficulties in working in this market are related to a heavy dependency on tourism. Dips in tourism- from both seasonality and the economic recession – were evident during the period of study. Additionally, given that this market is only open one day per week, sales are restricted unless other markets are accessed.

The *Tianguis* has grown considerably over the last few decades. “When I started there were 20 people. Now there are over 1000 vendors” (Nicolasa Bahena Romera,

interview, October 27, 2008). High competition has created an environment rife for design theft - products appear homogeneous and innovation is limited due to design replication amongst artisans, which is particularly evident at the *Tianguis*.

A second silver “mall” exists, which is open throughout the week in Taxco, except on Sundays. It is set up similarly to the *Tianguis* in that there are small vendors with tables, though these are permanently fixed in their location. Larger storefronts are found around the perimeter of space. It could be likened to a shopping mall that specializes in silver jewellery with limited selections of other products, all geared towards tourists.

Prices in the silver market are generally higher than in the *Tianguis*, and vendors have a reputation of carrying high quality products. There are fewer wholesalers within the silver market than at the *Tianguis*. None of the artisans interviewed indicated that they sold products at the silver market, though all spoke highly of the quality of products available there.

Unfortunately the market structure here is set up in a way that benefits the shop owners rather than highlights the artisans. A disconnect exists between artisan and consumer and it is interesting given the market’s focus on the tourist industry. Of the three trips that I took to this market, it remained rather empty, which could be attributed to the slump in tourism in 2008. As a livelihoods strategy, the silver mall presents a clear illustration of the important role that livelihoods diversification can play in reducing vulnerabilities. While the economic crash of 2008 affected all artisans in Mexico, in the case study those who were not solely dependent on local tourism fared better.

Another market access point commonly available to artisans exists through retail stores both in Mexico and abroad. In Taxco there are many retail shops set up to cater to both tourists and wholesale purchasers. Most provide a combination of retail and wholesale sales. Of note, despite having one of the largest economies in Latin America, there has been little focus in Mexico on tapping national markets – almost all artisans focus on tourism or export. Artisans interviewed believed this was in part due to a local preference for gold over silver, indicating that the demand may be lower than the market size suggests. Additionally, a preference also exists for imported products, which have a perceived higher value, despite a lower actual cost in Mexico.

There are additional challenges once artisans secure international clients, as noted by Manuel Alvira:

“There are many steps to exporting products for wholesale. If you are going to export silver, there is a number that the government assigns. There is a SECOFI office in Taxco which gives you a tariff number, which acts as a serial number of the product you are looking to export. Before any exports are sent you have to fill out an annual questionnaire to explain where the materials are purchased, etc... SECOFI then confirms that all of the information is valid. When they have all the information they give you a certificate of origin, which mentions that it is a Mexican product, made by craftsmen using materials from the region and the number of boxes that will be sent and where they go, and they confirm that silver is 925. If you're not certified you cannot send things” (Manuel Alvira Diaz, interview, October 30, 2008).

Retail silver shops in other areas of Mexico and abroad often purchase products directly from wholesalers in Taxco. Middlemen, called ‘coyotes’ in Mexico, come in person or may place orders remotely via various ICTs (phone, email, fax, e-commerce). Again, the artisan has little if any connection to either the middleman or the consumer in these instances. In fact, the wholesaler acts as the first middleman, while the retailer becomes the second middleman, effectively creating a larger gap between the price the artisan receives and that which the final consumer pays. According to Peoplink, artisans typically receive between 7-9% of the final consumer price (Salcedo 2012).

Local wholesalers resell goods to both middlemen purchasing for retail shops aimed at tourists in other areas of Mexico as well as those purchasing for international retail stores. In both instances, the artisan loses control over their income through a lack of connection between themselves and the final consumer.

The only market entry point which completely eliminates middlemen is when artisans sell directly to consumers. This is arguably inefficient for the artisan both in terms of the time and effort required to complete the transaction, which results in lower real price than may be indicated by cost breakdowns. The alternative is to sell to businesses – which is commonly argued to provide a better return.

The cooperatives both participated in e-commerce through various means and structures with varying levels of success. One of the most important elements in understanding ICT usage by the artisans interviewed is that they are all using a combination of ICTs and traditional forms of communication in developing their business strategies. Even street vendors, engaged in the most basic marketplace, were actively

using a variety of ICTs as tools in their business strategy. The following table outlines the types of tools used by participants:

Table 4. Artisans' ICT Usage

ICTs used by artisans	Common Usage
Computer	Computers were often present in businesses and to a lesser degree personal homes. They were mostly used for email access and Internet access.
Internet	Internet access was frequently used for personal purposes i.e.; researching products, reading the news etc. ARTCAMP was an exception with significant self-driven online presence through social media, e-market places
Digital Camera	Most artisans had access to digital cameras, particularly through their cell phones. When used for business they took basic product photos to be included in print and digital marketing materials.
Video Camera	Many artisans had access to digital video cameras. Only ARTCAMP used video for business purposes.
Cell Phone	Nearly all artisans and/or businesses owned cell phones. These were often owned for personal purposes. More established businesses had landlines.
Software	Basic office software was available on most computers. Only ARTCAMP had design software. UPA had office software available on their computers but had not activated it so it remained unused.
Fax Machine	All firms interviewed had fax machines. Individuals did not have access to fax machines.
Landline	Some individuals had landlines. All firms interviewed had landlines.
Email	All firms interviewed maintained email accounts for business purposes. Very few artisans interviewed in Taxco el Viejo had personal email accounts. However, all artisans interviewed in Taxco had email accounts for

personal usage.

Website	Nearly all firms had or have websites. ARTCAMP actively maintains a very complex website with several URLs. UPA dropped their website shortly after developing it several years prior to the study. Taller Azul and Successores de Spratling both had basic websites at the time of field research. However, neither website could be easily accessed through online search engines. By 2010, Taller Azul no longer had a website. None of the individual artisans maintained any web presence.
Other online tools	Facebook, online auctions, Fairtrade marketplace, You Tube etc.

Kotelnikov (UNDP 2007) presents an outline of possible progressions of ICT adoption (adapted in Figure 2) that highlights the increasing complexity of ICTs. In using this chart, the groups can be ranked in terms of the complexity of the ICT tools they are using. For instance, ARTCAMP was using advanced communications and some advanced information technologies. UPA’s tools included advanced communications though, outside of communicating with clients via email, most of their usage remained limited basic communications. However, Kotelnikov cautions that SMEs may adopt the technologies progressively or they may begin with more advanced technologies (6).

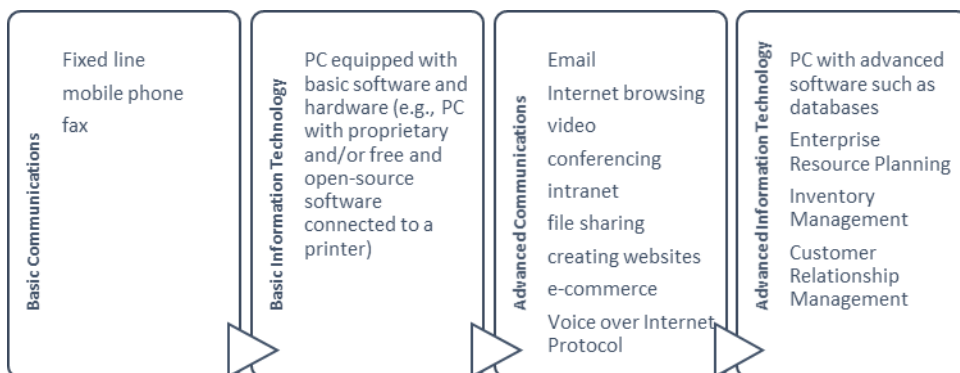


Figure 2. Progression of ICT Adoption (adapted from UNDP 2007)

It is important to understand that using ICTs and e-commerce as an approach to business is not necessarily an indication of the same trajectory. Not all groups using ICTs will or want to go on to use e-commerce. ICTs can be used as tools in traditional approaches to business, as is evident by the fact that all study participants reported some ICT usage. Obviously ICTs are required to implement e-commerce initiatives. However, e-commerce can occur in varying ways and stages as we will see through the case study.

There are four types of e-commerce structures used by the collectives: e-tailers (e-commerce through middlemen); self-directed e-commerce (B2B and B2C); third-party marketplaces (Peoplink); and online auctions (ebay). ARTCAMP, UPA, Taller Azul and Sucesores Spratling all have products available for sale online through stores owned by others both in Mexico and abroad. Products are purchased by these retailers (e-tailers) in wholesale orders from the cooperative and re-sold by shop owners through their online stores.

The same type of sale occurs through NGOs like Ten Thousand Villages, SERRV International and Aid to Artisans. Both UPA and ARTCAMP have developed relationships with these organizations, which have many other benefits besides trade. Many NGOs that support artisans through sales of products also provide grants, training and financial benefits to partners. In order to receive these benefits, artisans must be a part of a larger group or cooperative to facilitate the distribution of benefits and selection of candidates to participate.

Only ARTCAMP participates in self-directed e-commerce, and they do so as one of the main means of selling products. Most of their social media marketing is directed towards attracting wholesale purchases from other businesses, which may then resell the products online as e-tailers or through traditional means. On the ARTCAMP website, the artisan-owned direct distribution model (AODDM) is self-described as “an Internet based catalog and a system of product offers; with Traditional Distributor shipping/fulfillment capability”. Intended to provide increased incomes by removing middlemen and digitizing order processing; ARTCAMP applied unsuccessfully for funding to develop a direct distribution facility and to increase their stock on hand to prepare for the anticipated increase in sales as a result of the new business model (e-commerce). Though the funding application was unsuccessful, they found smaller private partners and succeeded in launching their B2B site. Unfortunately, the expected surge in sales did not materialize.

ARTCAMP did receive a lot of interest internationally for their ICT initiatives. They were one of ten finalists for the Digital Partners’ Social Enterprise Laboratory (SEL), a professional public-private mentorship model aimed at collaborative social-problem solving. Despite the program’s interest, few benefits were realized by the group. By 2012, ARTCAMP diversified their e-commerce strategy to include third-party market places and online auctions, though it was unclear whether these initiatives were taken on by the cooperative directly or by other individuals, as there were limited linkages to their website and social media pages.

The case study illustrates that e-commerce is an unlikely option for rural artisans to sell their products. Even when ICTs are used as tools to improve market access, artisans struggled to reach positive outcomes despite having advanced technologies. Through the application of the livelihoods framework at national, municipal and micro levels, a better understanding of the assets and challenges facing artisans has begun to be illustrated.

Chapter 6. From Coyotes to Market?

As the case studies illustrate, ICT tools are somewhat affordable and available yet despite the proliferation of ICTs, usage remains limited. There are few artisans who are also skilled in using ICTs. Somewhat unremarkably given the massive barriers they face in ICT adoption and market access, the artisans interviewed also struggled to secure strong international clients. What becomes evident is the limited role ICTs play in improving livelihoods outcomes.

In returning to the literature review, there are several important connections that can be found in contrasting livelihoods theory to the case study. As supported by IFAD, landlessness has marked a significant shift in rural livelihoods in Taxco Municipality. This shift from agriculture to nonfarm activities was further supported by the work of Spratling. Because livelihoods in Taxco Municipality have become so disparate from agriculture, Davis and Bezemer's theories related to surplus agricultural labour and reducing vulnerabilities through diversification and seasonality do not apply in the way intended. Artisans in Taxco have effectively "less-diversified" their livelihoods by focusing more wholly on craft -that is, they have shifted almost completely from agriculture to non-farm activities over the last several decades. Furthermore, in this case it is unlikely that farming activities offered higher income than non-farm activities, as was evident from the initial and continued shift away from agriculture.

In looking at that the strategies employed by participants, Carswells' agricultural theory of livelihoods strategies can be applied across sectors. To intensify their activities, the artisans did more with what they had: they worked more hours to create more

valuable/intricate pieces. To broaden their activities, they would get more to do more, by extending their type of offerings. Migration, particularly to the USA, was another common means of adapting to shock and vulnerabilities in Mexico employed by study participants. This was particularly evident through significant migration in Tecapulco, during difficult economic times.

While ARTCAMP sees the local market as an opportunity for further development, it is dependent on increased demand and shifting preference for silver over gold. Increases in income for residents is not likely to affect the study participants' microenterprises, as suggested by Haggblade. The combination of a lack of local demand in silver jewellery, dependence on tourism and extreme competition limit local opportunities for diversification.

In looking at Chambers and Sen's recommendations for the inclusion of wellbeing, happiness and self-esteem in assessing livelihood outcomes, it is evident that these provide important insights beyond income measures. Artisans at Successores Spratling and Taller Azul were observed to have high levels of security in their employment. Successores Spratling's artisan had been employed with the group for more than 43 years, despite changes in ownership. Taller Azul provided the most consistency in work for their employers, however, these employees worked significantly more hours while salaried, resulting in less time for other activities beyond their employment. Artisans at UPA were observed to have high levels of self-esteem in their employment. They were proud to be a part of the cooperative and believed that it afforded them better wages, more security in consistent employment and support from the group.

While Marzetti was correct in recognizing the limits of cross-cultural application of the SLA, citing a need for users to adapt the structure of the framework, few adjustments were required in this Mexican context. In fact, given the standard set by previous researchers in adapting the framework to their own needs, the inclusion of microenterprise, or any other aspect, can easily be addressed. In this case study, a more explicit inclusion of microenterprise as a strategy for achieving sustainable livelihoods was required. In addition to the inclusion of ICTs as physical assets, ICT usage was also included through human assets as skills.

Did microenterprise reduce risks as Ellis (2000) and Davis (2003) suggested? The evidence suggests that microenterprise participation alone does not necessarily reduce risks. Risk reduction is achieved in microenterprise through a complex balance, illustrated well by the livelihoods framework. The independent artisans who directly owned their microenterprise struggled to compete in Taxco, however, these were also the smallest microenterprises. In the case study group this was mitigated in two ways: through cooperatives and through a private ownership structure (which further distanced artisans from profits).

One way this can be further clarified is to look at the studies on enterprise classification by Duncombe and Heeks (2002) and Shaw (2004). Through these classifications, the study participants can be grouped into two types of enterprises: those that are survivalist and those that are entrepreneurial in nature. As Duncombe (2007) noted, artisans involved in entrepreneurial microenterprises experienced less poverty than those involved in survivalist microenterprises. Participants in survivalist microenterprises

faced significant barriers and generally had lower levels of capital. In Chacon's case, he was able to mitigate some barriers by situating himself within a niche market. However, this also limited his options in accessing markets. Once the economy faltered and tourism declined, his sales plummeted due to dependency on tourism and high relative costs of shipping.

In the case study, smaller scale activities like those of Nicolasa and Chacon resulted in low returns – similar to those of agriculture. Only artisans who participated in larger scale activities (ARTCAMP, UPA, Taller Azul, Spratling) saw better returns than farming – as suggested by Davis.

As Duncombe noted, poor households did step in and out of microenterprise activities related to seasonal demand, availability of resources and other personal and social factors. In the case study area, the diversification of income generating activities was common. Most study participants employed a variety of activities to gain income. For example, Felix, identified the progression of her income generating activities from working in food sales to cutting abalone to opening a supply shop. Felix's situation illustrates the fluid nature of employment activities and the challenges of continuing some types of employment. In some cases her shifts in activities were related to seasonal fluctuations and others were related to social and personal reasons. For artisans in Taxco, most of the diversification was at the household level. Metal work remained the main employment activity.

In returning to look at ICTs, as supported by Global Alliance for ICT and Development (2008), ICTs have become a tool for artisans in Taxco Municipality.

However, these tools have not resulted in the fundamental increase in competitiveness as initially suggested. ICT tools are readily available though their usage may not be as productive as possible given limits in human capital.

Chapman, Slaymaker and Young (2003) recommended reviewing linkages between ICTs and livelihood assets to better understand the role and impact of ICTs in reducing vulnerabilities. Batchelor and Scott (2001), ODI/FAP (2003) and De Silva, H., (2008, 35) provided a variety of possible linkages, which are contrasted against the case study findings below (Table 5).

Table 5. Assets and ICTs in Taxco

Assets	Linkages with ICTs in Taxco
Social	<ul style="list-style-type: none"> ■ Increased communication with clients and suppliers ■ Network building benefited from increased and expedited communication
Human	<ul style="list-style-type: none"> ■ Access to information was available though research and development through ICTs was limited in most instances ■ E-health was not addressed or mentioned in the scope of the study ■ ICTs did not seem to provide additional time for other productive abilities – human capital and ICT skills were nascent ■ Capture and storage of knowledge ■ Partnerships supported capacity building skills
Physical	<ul style="list-style-type: none"> ■ affordable ICTs were widely available and owned, more so by entrepreneurial microenterprises ■ Equipment was widely available and owned, grants were also secured by entrepreneurial microenterprises

- Financial
- All involved in international markets had increased profits and international markets available from increased access to market information
 - Remittances were not commonly discussed – though it was a common occurrence
 - Shipping costs were better negotiated through ICTs
 - Basic financial services were not affected in the groups studied as they all completed banking in person and through wire transfer, financial transactions improved only for ARTCAMP
 - Access to information about financial programs improved (grants, credit etc) though participants often required translation services
-

In accordance with Kshetri and Nikhilesh's findings (2002), all participants familiar with e-commerce agreed that the best benefit would be from B2B rather than B2C. UPA ceased all self-directed e-commerce activities after launching a website several years earlier which focused on B2C. They noted excessive time demands in completing sales due to the small amount secured from each transaction. However, UPA's president still believed that B2B e-commerce presented viable opportunities for their future. He noted that they had not proceeded with this model as they had not reached consensus to move forward with further ICT projects.

In looking at ICTs and microenterprise in development, it becomes obvious that the push for ICT development projects and much of the associated funding has been limited to large enterprise activities - despite the proliferation of microenterprises in Latin America. Unfortunately, despite the growth of MEs, the low cost and substantial

availability of ICTs throughout Taxco Municipality, e-commerce was not an effective tool to increase market reach and income in rural areas. Artisans have not moved into a better state of condition than existed before the use of ICTs. Incorporating e-commerce as a business strategy has not brought about the benefits suggested by supporters.

Several issues became apparent in this case study: the presence of technology does not equate to usage; the combination of craft and ICT skills is rare; groups continue to have difficulty in connecting with strong consistent markets and clients; and most importantly, ICTs in business applications provide little if any gains to the artisans involved.

While technologies are present in many homes or accessible through affordable local services in rural communities, usage by artisans is limited. Few UPA members interviewed indicated that they regularly used email or computers. During a design research workshop at UPA, members were uncomfortable using the Internet as a research tool. Much of ICT usage that was observed appeared to be limited to cell phones and some degree of digital photography/video. In most instances, ICTs used by artisans were for personal reasons rather than professional and even then usage was limited.

The organizational structure of ARTCAMP manages business and production separately. This structure provides the opportunity for artisans to maintain “cottage industry” and focus strictly on artisan production. In terms of production, few, if any technologies are required – thus artisans strictly focused on production have limited ICT needs. When ICTs were used, the methods were usually basic and the effectiveness was often debatable given the time involved. Email was one exception – online

communication via email was well-applied: responses were generally quick, direct and effective.

Business transactions and tracking were otherwise completed manually in all cases except ARTCAMP. In fact, despite have computers, printers and a scanner which could have significantly streamlined and expedited business transactions, UPA completed all order tracking and receipts by hand or by manual typewriter. ARTCAMP also had many instances of hand-written business transactions, in spite of focusing on developing the AODDM.

Previous research supports this study's findings that few individuals have both skills with ICTs and craft, (Hassanin 2002). Hassanin found that few artisans had ICT skills and those who developed their ICT skills, frequently shifted careers to clerical positions for higher income. UPA's members' had limited experience with ICTs. Of the members interviewed, only the president used any technologies regularly for business purposes and these were mainly limited to email, fax and some photos. The group was able to provide other electronic marketing materials (brochures, e-catalogues presented on CDs) that were acquired through the skills of younger family members. At the time of study, the two young women who assisted in creating these items were preparing to leave the community to attend college.

Where implemented effectively, the case study groups employed people exclusively to work on ICTs who either had no craft skills or mainly focused their efforts on these areas rather than doing both. Given the rather significant difference in pay between artisan salaries and administrative salaries, artisans taking up these tasks are

encouraged to shift focus because of the monetary difference. Additionally, many people with administrative skills will leave rural areas in search of more lucrative careers in urban centres. ARTCAMP has increased the organizational ability to manage ICTs by increasing human capital through capacity building.

All participants had difficulties in connecting with strong, stable and consistent international markets and clients. One of the main issues, from an economic perspective, is that market maturity for all artisans and cooperatives involved is low. None of the groups interviewed succeeded in securing significant clients at any point preceding the study or up to the present day. Both UPA and ARTCAMP struggled for several years to maintain sales sufficient for even basic employment. In ARTCAMP's case, while artisans are needed once sales are secured, the administration is responsible for securing initial orders, resulting in less security for artisans than those involved in business administration of the cooperative. Even within the ARTCAMP cooperative structure that separates business from craft and should protect artisans, they remain vulnerable. Both UPA and ARTCAMP had only a few buyers with whom they had reliable relationships. However, the orders were still small by most standards, leaving the groups struggling to support their members. None of the groups interviewed, and in fact no groups from Guerrero at all that I could find, were successful in securing contracts with major retailers like department stores or other national retailers either in Mexico or abroad – one of the main reasons for the initial success of the industry during the Spratling renaissance.

Successes in ICT usage as a means to distribute or market wares provided limited if any substantial gains to the artisans involved. In the case of UPA – ICTs in marketing and distributing products were mainly managed by younger family members. While they are able to meet this need for a period of time, these skills are not often retained by the group. Jewellery making, though a highly skilled profession, is one where on-the-job training is common. There are few artisans who complete formal training in institutions – relying instead on apprenticeship. Once a person gains skills in ICTs – they become employable in a range of additional fields opening up opportunities with greater income potential. Even though ARTCAMP administrators have substantial ICTs skills and strategies – the approach has not resulted in sustainable livelihoods for the artisans involved.

On a macro-level, the universal Internet access program has ensured wide reaching Internet availability – even at the household level. However, programs aimed at increasing capacity to use these technologies effectively have been unsuccessful. Additionally, ownership of technologies in many cases in this study group appeared to be important for status rather than function. While Internet had been widely distributed across Mexico including through Guerrero, many of the most remote communities were unlikely to be included in any initiatives.

Cozzen and Sutz' (2012) work on innovation for inclusive development provides helpful perspectives in linking the micro and macro level in research. They highlight how informal settings can inform public policies through their study of innovation in the informal sector. They suggest that knowledge held at the local level can aid in the

development of more efficient mechanisms (41), mirroring the livelihoods argument which suggests that by researching policies and their effect on the poor that policies can then be adapted to become more efficient at the local level.

Several other studies can help to provide important links between macro-level challenges and the effect that they have on rural artisans in Mexico. In a study of artisan cooperatives in Oaxaca, Mexico, Lynn Stephen (2005b) noted a significant increase in the number of cooperatives operating in Oaxaca during the same period that the Salinas government was in power. She postulates that the introduction of the neoliberal regime, the economic downturn fuelled by NAFTA and the devaluation of the peso, supported the increase in cooperatives. As neoliberalism tends to support a high level of stratification where wealth is focused in the upper class, cooperatives emerged as a means for artisans to regain control. These results were paralleled by the cooperatives interviewed in Taxco – both had formed when neoliberal regimes were in power and as a direct attempt to strengthen their selling capacity.

In looking at immigration from Mexico to the USA, over a ten year period beginning in 1993, rates did not increase as one might expect as a result of NAFTA (Fernandez-Kelly and Massey 2007). Where immigration between Mexico and the USA had previously been more cyclical, the introduction of harsher immigration policies in the USA in 1986, through the American neoliberal agenda resulted in an overall increase in Mexicans in the USA. This suggests that statistics in advance of NAFTA represented re-immigration of those who travelled between the countries repeatedly (Fernandez-Kelly and Massey 2007). As Fernandez-Kelly and Massey note, after NAFTA Mexicans

entering the USA were less likely to return to Mexico fearing difficulties in re-immigrating to the USA. Tecapulco was particularly affected by this trend as noted by the women of ARTCAMP.

Lynn Stephen (2005a), in her work with weavers in Teotitlan Del Valle in the 1980s and 1990s, noted that Mexico's cultural and economic policies were simultaneously supporting artisan culture while creating additional barriers to market entry. NAFTA has resulted in policies which directly affect artisans in Taxco. As UPA's president explained while demonstrating the additional paperwork required for packages sent to Canada and the USA, "the export requirements are more complicated. None of this is needed to send to Europe" (Manual Alvira Diaz, personal conversation, October 2008).

Normally neoliberal policies are characterized by a reduction in social spending, however, the Salinas government provided further support in 1988 in the area of tourism, culture and craft through the development of National Council for Culture and the Arts

(CONACULTA), which continued to support tourism through economic crisis⁴. Tourism is intrinsically linked to craft through the promotion of Mexico's cultural identity. One artisan bluntly describes the importance of tourism to their livelihoods when asked what would happen if there were no tourists, "We would starve" (Nicolasa Bahena Romera, interview, October 27, 2008). This sentiment was repeated, albeit less directly by a local shop owner, "This year sales have been bad because of the weather and fewer tourists....Tourism is most important for artisans here" (Marta Arroyo Sanchez, interview, October 31, 2008).

In addition to issues exasperated by NAFTA, extreme competition in the jewellery industry exists from China and India. The Mexican government missed an opportunity for expansion, as successfully implemented by India's craft sector during the period of 1930 to 1960 (Stromberg-Pellizzi 1993). According to the IMF Direction of trade statistics (1996 and 2005), Mexican exports to China increased fourfold from 1996

⁴ Interestingly, Goldman (1994) notes the use of art exhibits tools of political ideologies (particularly neoliberal) between Mexico and the USA and as a means to bring actors together between Mexico and USA.

to 2005. During the same period, imports from China to Mexico increase nearly 10 times, with an overall value of almost four times that of exports. China is positioned as the global driver of silver jewellery trade. According to the Silver Institute, China's fabrication of silver jewelry increased from 2.2 million ounces (Moz) in 1996 to 17.4 Moz in 2005 (GFMS Ltd 2007), fueling an increase of over 90% in the value of trade in the five year period leading up to 2005.

The effects on Mexican artisans are undeniable. Artisans themselves were intrinsically aware of the pressures being caused by Chinese imports globally. One artisan expressed his exasperation, "how can we compete?" (Saul Alvira Diaz, interview, October 30, 2008). Competition with price is nearly impossible for Mexican artisans. The President of UPA shares his view on price: "The first obstacle we've found, is the price, since to enter the international market, you have to compete with price" (Manuel Alvira Diaz, interview, October 30, 2008).

Given the virtual impossibility of competing on price with the current mode of production, artisans are left to position their products in more innovative ways. In the case of ARTCAMP and UPA, both have worked to become more competitive through their designs and quality of handmade production. However, designs are rarely effectively protected and piracy within Taxco, Mexico and globally is rampant. Silver jewelry, though carefully monitored through designer marks and stamps identifying the quality of metal, are also quickly being inundated by Chinese knock-offs.

Piracy of Mexican products is not uncommon with other crafts in Mexico too. They can be easily identified in other Mexican craft communities where "Made in China"

labels are found on traditional artisan products. According to a study by Indigo Report news (Artesanos Piratas, October 14, 2013), indigenous communities in Michoacán are being flooded with lower cost, mass produced ‘indigenous’ products from Mexico. Products enter the country illegally but circumvent customs inspectors who are focused on intercepting drug and weapons rather than manufactured products. The sale of true Mexican products competing with Chinese contraband have been reduced by up to 80%, unable to compete with price, resulting in the catastrophic decline of artisan livelihoods (Artesanos Piratas, October 14, 2013).

The proliferation of low cost imports from industry heavy-weights like China, has forced artisans to seek alternatives in trade. In the case of ARTCAMP, the cooperative invested tremendous efforts to develop their online profile. By all accounts their online presence was prolific, however, there were limited real benefits distributed to artisans. At the time of study, online sales were limited and did not translate into an ability to increase income stability. For UPA, their ventures in self-managed online sales, though limited, proved to the group that it was not the best business approach.

This study found that the particular business structure in which the artisans worked proved important to livelihoods and ultimately the community. In the example of Taller Azul, where orders were substantial and consistent, any real financial gains were limited to the business owner. Artisans profited in that they held stable positions. However, their income did not substantially increase and given the increased working hours required to meet demands, their rate of pay actually decreased.

Tremendous competition exists both locally, nationally and internationally for these artisans. Even with extremely targeted and professional marketing campaigns, competition is likely to limit their success. At the time of field research, the local market appeared completely saturated. Furthermore, the economic recession put serious pressure on artisans as sales of non-essential goods and tourism – one of most important markets for the industry – plummeted.

Government programs have been ineffective in supporting most artisans. From a craft perspective, policies have focused on supporting cultural components of the silver industry. Fairs and exhibitions supported by government are more focused on providing awards to the artisans who are already the most successful, presenting pieces valued at several hundred or thousand dollars, than on supporting small-scale cooperative artisans. From an international trade perspective, all countries to which the artisan groups export their products also receive imports from lower cost alternative producing countries like India, China and Thailand. Mexico has few export policies or programs aimed at supporting microenterprises, despite the vast number of microenterprises present nationally.

Remarkably, despite numerous challenges in ICT adoption and limited proven success, artisans remained open to applying ICTs in the present and future. They recognized that it was a necessary step in communicating with international clients and still believed it could provide successes yet to come.

There are several implications evident from this study. The most concerning is the obvious flaw that continues to exist in development programming for rural artisans in

relation to ICTs. As illustrated by the findings of this study, human capital should be strengthened, through training, with the recommendation or introduction of any ICTs. Furthermore, the recommendation of e-commerce business strategies to artisans must be thoroughly critiqued – the likelihood of this strategy being a viable option is quite limited. This is in part illustrated by the challenges that ARTCAMP has met in implementing their own AODDM. If it cannot be adequately implemented by its inventors, it is even less likely to work for most other rural producers.

Given these evident barriers to ICT adoption, what other recommendations are possible? More accessibility in markets may be less an issue of removing middlemen and more about select middlemen - as both ARTCAMP and UPA have done. They have been able to limit the number of middlemen and in some cases select clients who are able to offer additional benefits to the cooperative. While the question still exists of what constitutes ‘a livable wage’ as identified by the NGOs supporting alternative trade, both UPA and ARTCAMP have received higher wages than would be otherwise secured through more traditional middlemen.

In retrospect, a simple change that could be recommended to the participants related to ICTs which would facilitate their processes significantly, is related to software use including word processing and basic database technology. Many simple tasks, like writing receipts and tracking clients, were completed manually which could be greatly expedited through using available software. These tasks, for those with sufficient literacy levels, are an appropriate starting point in including ICTs within business strategies.

Of additional importance is the return to including wellbeing when measuring outcomes. In returning to ICTs, success cannot be indicated by whether or not ICTs are being used but overall wellbeing. In this case, the highest levels of wellbeing were found in the cooperative members though their enterprises were not as successful as other private enterprises. Higher wellbeing was also found at the household level, business level and community level.

Chapter 7. Conclusion

Several ongoing challenges for artisans were identified in this research project related to access, skills, distribution of benefits and competition. Overall, Internet access and technology is widely available in Mexico, except for the most remote areas. However, *while technologies are present in many homes or accessible through affordable local services in rural communities, usage by artisans is limited.* One reason may be that *the combination of ICT skills and craft skills is quite rare.* All artisans had *difficulties in connecting with strong, stable and consistent international markets and clients,* and not surprisingly, *successes in ICT usage as a means to distribute or market wares provided limited if any substantial gains to the artisans involved.*

Given the governments' limited support to microenterprises like UPA and ARTCAMP, and the near complete invisibility of the informal sector in any form of programming, microenterprises are forced to tackle international markets with limited direction. In fact, the only real support for reaching international markets received by the two cooperatives in this study came from partnerships with international NGOs. However, while there are undeniable benefits, the structure of these relationships is similar to that seen with use of other middlemen – much of the profits are lost between the consumer purchasing the product and the artisans receiving payment.

UPA's approach to limiting ICT usage presents as a more manageable tactic in focusing their marketing and developing their client relationships. They have a strong relationship with SERV V International and Ten Thousand Villages that have supported them both in securing grants to purchase new technologies and to develop their marketing

skills. However, there are significant limits in scale to the markets reached by these organizations.

ARTCAMP adopted a blanket approach to reaching clients with limited focus in direction beyond “let’s do it online”. Though they have a well-developed public message, it does not translate as effectively to their online image. Over the more recent past, the quality of their marketing has vastly improved with the addition of a professional photographer. However, their website has significant challenges for users and requires a complete redesign in order to be clear and effective for international clients.

In looking at independent artisans in the informal sector, like Nicolasa and Chacon, the move to e-commerce requires such a leap in terms of human capital, physical capital and financial capital that it becomes an unrealistic expectation. Individual artisans could access international markets by joining marketing cooperatives – however, they would be bound to a new set of responsibilities and challenges that arise from cooperative membership. Seeking a niche market, as Chacon has done, could provide greater success through increased sales if access points to these markets could be identified. However, with a unique product, a marketing cooperative may also be unable to locate these access points in balancing the needs of the full cooperative.

In not even the most optimistic terms could the application of ICTs to the cases studied be considered development. Livelihoods of artisans in most cases did not appear to become more sustainable – for ARTCAMP it could easily be argued they became less sustainable. UPA discovered early on that participating in B2C e-commerce through their own website was not an effective use of human or financial capital.

Despite more than six years online, ARTCAMP was no closer in 2012 to securing sustainable livelihoods for its artisans. If anything, the administrative staff managing their web presence benefited from higher salaries while the artisans continued to struggle. E-commerce as a business model was so unsuccessful for the group that they ceased operations at least twice during the period between 2007 and 2013. Interestingly, the group kept all websites functioning despite their struggles. During this time, their focus also shifted to other areas (language CDs, novellas etc). Though they continued to develop their online profile and marketing through social media, they have yet to meet the same level of success that they had encountered before the economic recession.

Taller Azul and Successores Spratling provided what could be considered the most sound approach to including ICT and e-commerce. However, due to their business structures the artisans did not realize notable benefits. In the case of Taller Azul, ICT usage was focused on customer communications. Their website provided a few product images and contact information. Communications with clients were then completed electronically. Record keeping was also electronic. The administration was able to develop efficient use of ICTs which allowed them greater time to foster their consumer relationships.

Successores Spratling followed a similar business model with administrative duties and artisan activities completed by different people. Successores Spratling also developed a niche market based on historical reputation and highly specialized traditional skills. The Italian owners had better understanding of the international consumer than all other microenterprises included in the study.

On an individual level, artisans employ a variety of livelihoods tactics – in the most rural area (Tecapulco) artisans partake in subsistence farming or migrate in search of work. In slightly larger villages where agricultural activities are less common, they are more likely to diversify their types of employment. In Taxco el Viejo, some artisans had other skills (carpentry, blacksmithing) which they drew upon when needed. Spouses in these communities also often had jobs in other areas (food services, suppliers, retail shops), which allowed the household to diversify employment. Additionally, these spouses participated as unpaid labourers in the evenings when needed.

There were several challenges that all groups faced. The market (both local and international) in Taxco has a high rate of saturation. Substantial competition has fueled an environment where it is difficult to keep design innovative. Once a design is proven to be popular, other groups appropriate the designs undercutting pricing until little value remains both in the product and for the artisans. All groups also experienced challenges in accessing markets from afar, which ranged from difficulties in following trends, to time needed in compiling orders for B2C clients, to building strong relationships with clients.

In looking at the case study participants, UPA's story is not an unfamiliar one. The collective is attempting to tackle a development problem like any other – they are a group with many needs and few resources. What must be determined is the order in which to address these disparities. The lack of computer skills and minimal marketing experience need not limit the ability of a craft organization to begin selling products online. Many aid organizations specialize in assisting handicraft producers to broaden

their markets through training, grants and marketplace assistance programs (SERVV International, Aid to Artisans, Global Crafts, Peoplink, etc.). However, the leap from rural craft producer to independent international e-commerce operation may well be too far a stretch for most.

A number of recommendations can be made based upon this case study. First, it appears that the development programming approach currently used for rural artisans, particularly in relation to ICTs, is flawed. From an ICT and education standpoint, there are several areas where human capital should be strengthened before further e-commerce programming be suggested. As was evident from the availability but limited use of ICTs (computers, digital cameras, software), artisans in Guerrero required further training on using these tools to their benefit. ARTCAMP found the a good solution to this obstacle by training local women in web programming and design, which in turn allowed artisans to focus on jewellery-making. UPA expressed a similar goal by highlighting their desire to focus only on jewellery-making while offering having digital marketing media handled by others.

Second, this study found that ARTCAMP's artisan owned direct distribution model (AODDM) was unlikely to work for many rural producers. The model relies, like many development programs, on artisans being able to implement a rather complex e-business plan. For most, with limited ICT skills, this will simply be too large a challenge to overcome. In fact, even ARTCAMP struggled to support themselves through their own internationally acclaimed model. A better approach for e-commerce for rural artisans may

be, rather than to remove the middleman, to select a “middleman” – as both ARTCAMP and UPA have done – either through e-commerce or traditional means.

Third, the most benefit may be found in providing basic ICT skills training (office or business software) to facilitate and expedite general business tasks and tracking for artisans. Allowing more complex ICT tasks to be completed by those specialized in ICTs provides for artisans the time required to produce and manufacture products.

Finally, the approach that seemed to provide the most stability for artisans was not whether or not they used ICTs, but rather the structure through which the group operated. In the case of both UPA and ARTCAMP, artisans’ membership in a cooperative afforded them, their families, and ultimately their communities’ notable benefits. All artisans in these groups had higher salaries, frequent and consistent work, access to training opportunities, access to business loans and more technologies (both ICTs and machinery) than artisans interviewed who were not cooperative members. Overall they had higher capital in all areas than other artisans. Additionally, they were the only groups who participated in community development initiatives as a direct result of their employment.

While several findings were highlighted by this study there were also minor limitations of the research. At times there were challenges in translation in the field which limited my understanding of topics. Fortunately my data collection methods often allowed for translation to be completed at a later time. In retrospect, there were times where I could have benefitted from additional probing to draw out more relevant information from participants. In these cases, secondary research was frequently used to support participants’ statements. While the research of this project is limited to the case

study participants, the findings provide general recommendations which can be drawn on and contrasted against similar studies.

Many interesting issues became apparent as a result of this study. Further areas for research could focus on comparing the livelihoods of artisans participating in collective handicraft marketing organizations and artisan collectives like UPA and ARTCAMP that are involved in the full spectrum of design to sale activities. Given the apparent increase in sales for microenterprises in this case study observed when multiple people handled these activities, it may be beneficial for individual artisans to participate in marketing or other cooperatives. There are few research projects that have been completed with Taxco artisans, thus there remain many other areas of unexplored research in the area. One area of research that could provide very interesting contributions to the field of international development with a focus on rural livelihoods of artisans would be to analyze the success of the Spratling “development project” of the 1920s-1940s. There are many parallels that could be drawn between approaches to international business currently and of that time. Additionally, a study on this topic may provide important insights for microenterprises engaged in international trade in overcoming vulnerabilities during an economic downturn.

Conclusion

While much discussion exists around the livelihood framework’s application at the micro-level, little research is available that looks at micro-level realities of individuals using ICTs in their livelihood strategies and within microenterprises. In applying the framework to look at the relationship between microenterprises, ICTs and e-commerce in

Taxco municipality, it was found that despite available infrastructure; e-commerce and ICTs are not a realistic option in supporting the livelihoods of artisans. The barriers required to overcome issues related to market access, human capital deficiencies and insufficient government support structures are most likely too great for most to overcome. Without significant educational training programs to support the development of ICT skills and corresponding programs to help keep those with ICT skills in rural areas, e-commerce is unlikely to present a viable alternative for traditional means for selling wares to artisans. However, a variety of ICTs can and are being employed by artisans to assist them in reaching stronger markets, understanding consumer demands and facilitating business communications as they move away from traditional means and towards a globalized approach to trade.

Appendix

Key Informant Interview Guide

What is your experience with rural silver artisans in Guerrero?

How do the livelihoods of silver artisans compare to other residents?

What have you noticed since the introduction of e-commerce with the silver industry in Guerrero?

What structure/institution/policies/processes inhibit or assist artisans using e-commerce?

Are there other methods for selling products that are more effective? Why?

Are there any issues unique to silver artisans in Guerrero?

What are your recommendations for artisans using or thinking about using e-commerce?

What do you think is the solution for artisans to maintain sustainable livelihoods?

Do you have any questions or final comments?

Focus Groups and Individual Artisan Interviews

Tell me about the activities that you do to make a living.

Tell me about the different methods that you use to sell your products.

Which methods provide you with the greatest benefits?

To what effect have relationships and behaviors in selling/buying your products/supplies changed over the past ten years?

Tell me about your experiences accessing markets to sell your products over the past ten years.

What effect have telecommunications and e-commerce had on this?

Tell me about any barriers you have in accessing international markets/national markets/local markets.

What difficulties have you encountered understanding and using e-commerce?

How has your approach changed since you started/stopped using e-commerce?

Has it been easier/ more difficult to sustain your livelihood before/ during/ or after using e-commerce?

What would you have done differently if you had known what you do now?

What are your feelings towards e-commerce?

How could e-commerce be successfully used by artisans in the future?

What do you think is the solution for artisans to maintain sustainable livelihoods?

Do you have any questions or final comments?

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