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IFAD/ GLOBAL MDP PARTNERSHIP

EFFECTIVENESS OF VALUE CHAIN INTERVENTIONS IN POVERTY REDUCTION: A CASE STUDY OF PACE SELECTED SUB-PROJECT IN BANGLADESH

FIELD REPORT

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ABSTRACT

The report assessed the effectiveness of value chain support measures in reducing poverty by creating new employment, increasing income and asset accumulation of project participants. The project titled "development of technical skills, increasing income and creating employment opportunity of micro shoe industry entrepreneurs' was selected for investigation in the Bhairab and Kishoreganj Upazilla. The study used a mixed method approach and data was collected from both secondary sources such as publications, project reports among others and primary sources like focus group discussions, key informant interviews, questionnaires and thematic content. 137 value chain actors in the micro shoe sub sector were sampled. Micro entrepreneurs received various value chain interventions according to their level in the chain. The results of the study show a significant 97% on average an increment of income for value chain actors, access to health care, education, savings and investment in their businesses. Technology also increased production and quality of shoes. However, few employment opportunities were created at producer level while other actors did not create any employment. Similarly, the study found that producers were able to create few new employment opportunities unlike other levels. With caution, the study also found that market linkage is a challenge for micro entrepreneurs and women participation is at employee level. In conclusion the provision of value chain interventions improved household poverty reduction. However, the persistence of market entry barriers advocates for stringent efforts that would increase women participation across all levels as entrepreneurs in forward markets, a complete package that addresses challenges faced by micro entrepreneurs including addressing external barriers to entry.

CASE STUDY OVERVIEW

PKSF is an apex development organization initiated by the Government of Bangladesh in mid-1990 to carry out sustainable poverty reduction through employment creation from the grassroots level of self-employment in the rural off-farm sector through their credit programme. PKSF has since gained immeasurable knowledge and expertise in implementing programs that promote economic freedom, hence currently implementing a more integrative and holistic approach. It has now enabled the poor to escape poverty from the low productivity trap by integrating capacity building, technology transfer, value chain development and its technical services in its development programmes.

Project overview

The Promoting Agricultural Commercialization and Enterprises (PACE) project is the third project under the Country Strategic Opportunities Program (COSOP) 2012-2018 of the International Fund for Agricultural Development (IFAD) for Bangladesh. The project has been built on and is scaling-up a) the experiences of value chain development made by its pre-cursors, especially Finance for Enterprise Development and Employment Creation (FEDEC) Project, Microfinance for Marginal and Small Farmers (MFMSF) Project, Microfinance and Technical Supports (MFTS) Project and MIDPCR and b) financial services for Micro Enterprises (MEs). PACE follows the strategy of combing financial and non- financial services for micro enterprise development. The project intends to scale up successful value chain development activities of several earlier projects throughout the country and add non-farm sectors to develop business and create wage employment for the poor.

Furthermore, a much broader sector development approach was adopted which include development of service market and the improvement of policy, regulatory and physical environments relevant to enterprises and agriculture. PACE will address sector specific policy issues and advocate for pro-poor business policy as well as establish collaboration with national, international organizations for technical assistance to solve sector specific problems and identify suitable technologies.

Project financing: The project is jointly financed by IFAD, PKSF and POs of PKSF. The breakdown is as follows: IFAD USD 40.00 million, Korean grant USD 0.36 million, PKSF USD 22.45 million, POs USD 30.04 million.

Goal: The project goal is to enhance livelihoods (higher income from self-employment, business profit, wage employment and food security) of the moderate and extreme poor project participants (men and women) in a sustainable manner.

Development objective: The development objective is to increase sales and incomes for existing and new microenterprises and to create new wage employment opportunities for extreme and moderate poor people.

Project components: The project has three complementary components;

1. **Financial services for microenterprise:** The project will strengthen further the Microenterprise Program of PKSF and will provide sustainable financial services for the expansion of microenterprises (farm, off-farm, trading and service sectors). The outputs of this component are: a) expansion of microenterprise loans for various sectors (e.g. agriculture, off-farm, trading and services); b) piloting of new loan products; and c) capacity building of PKSF and POs in designing and developing of new financial products, monitoring, evaluation and impact assessment of ME program and application of information technology in management of POs.

2. **Value Chain Development:** Under the Value Chain Development component of the project, PKSF will make value chain interventions in various farm, off-farm and service sectors to help upscaling business, adoption of appropriate technologies, enhance productivity and ensure access to markets in a sustainable manner. The outputs of the component are: a) establish and expand value chains of 15 agricultural subsectors (products or group of products) in various parts of the country; b) establish and expand value chains for 15 non-farm manufacturing, processing and service subsectors (products or group of products) in various parts of the country; c) strengthen capacity of PKSF and POs to manage large-scale value chain sub projects; d) enhance capacity of PKSF and POs to identify, advocate and strengthen pro-poor business policies, especially sector specific policies; and e) set up an internet based platform to transact products of

microentrepreneurs.

3. **Technology and product adaptation:** The project will introduce proven technologies and products (agricultural and off-farm) from Bangladesh and international sources to the microentrepreneurs. The outputs of this component are: a) resolution of technological problems identified under Value Chain Development component; b) adaptation and dissemination of proven technologies and products; and c) provision for technical assistance

Project Participants

The target population of PACE project will include micro entrepreneurs' who are borrowers of ME loan program, moderately poor and extremely poor persons. In terms of professional identities, the project will target marginal and small farmers involved in field crops, horticulture, fisheries, livestock production, non-farm microentrepreneurs, and professionals in service sectors. The project will extend financial services to additional 1,02,000 micro entrepreneurs. Under the Value Chain Development of the project 3,00,00 project participants will receive non-financial services while 50,000 entrepreneurs will be benefitted under the component of Technology and product adaptation.

Outcome

The main benefits of the project will be increase in sales due to the expansion of business, enhancement in productivity due to adoption of technologies and management practice, increased income by microentrepreneurs and other Value Chain (VC) actors, increased skills levels of workers, sustainable services, creation of wage employment and a conducive sector specific policy environment.

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ACRONYMS

ATSDR - Agency for Toxic Substances and Disease Registry

COAST Trust - Coastal Association for Social Transformation Trust

COSOP - Country Strategic Opportunities Program

DDT - Dichlorodiphenyltrichloroethane

DOF – Department of Fisheries

FEDEC – Finance for Enterprise Development and Employment Creation

FGD – Focus Group Discussion

FRSS - Fisheries Resources Survey System

GDP – Gross Domestic Product

IFAD – International Fund for Agricultural Development

MEs – Micro Enterprises

MFMSF – Microfinance for Marginal and Small Farmers

MFTS – Microfinance and Technical Supports

PACE - Promotional Agricultural Commercialization Enterprises

PKSF- Palli Karma-Sahayak Foundation

PMI – Project Implementation Manual

PMU – Project Management Unit

SPSS – Statistical Package for Social Sciences

UNEP - United Nations Environment Program

VC- Value Chain

VCD- Value Chain Development

CHAPTER 1
INTRODUCTION
Brief background

Bangladesh is one of the world's most densely populated (about 156.8 million) countries in the world and vulnerable to flooding, cyclones and a volatile political system (Statistical Pocket Book Bangladesh, 2015; Anon, 2017). It has one of the largest deltas of the world with a total area of 147,570 sq.km and covered with a network of rivers and canals forming a maze of interconnecting channels (Statistical Pocket Book Bangladesh, 2015). Despite, its rich biodiversity, Bangladesh is still faced with extreme poverty, resource exploitation and natural disasters. Government of Bangladesh initiated an apex development organization (Palli Karma-Sahayak Foundation {PKSF}) in the mid-1990s to carry out sustainable poverty reduction through employment creation and increasing income through its micro- credit programme (PKSF, 2014). PKSF has enabled the poor to escape poverty from the low productivity trap by integrating capacity building, technology transfer, value chain development and its technical services in its development programmes (PKSF, 2014).

Over the past decade, many governmental, private or donor-funded programs have adopted value chain development (VCD) to address goals related to poverty reduction and economic development (Pietrobelli & Staritz, 2013). PKSF like other organizations is using value chain approach to increase income, create employment and reduce poverty. The Promoting Agricultural Commercialization and Enterprises (PACE) project is the third project under the Country Strategic Opportunities Program (COSOP) 2012-2018 of the International Fund for Agricultural Development (IFAD) for Bangladesh. PACE follows the strategy of combining financial and non-financial services for micro enterprise development by upscaling successful value chain development activities of several earlier projects throughout the country and adding non-farm sectors to develop the business and create wage employment for the poor. PACE aims to enhance livelihoods (higher income from self-employment, business profit, wage employment and food security) of the moderate and extreme poor project participants (men and women) in a sustainable manner. Its developmental objective is to increase sales and incomes for existing and new microenterprises and to create new wage employment opportunities for extreme and moderate poor people.

STATEMENT OF THE PROBLEM

To achieve sustainable economic growth and poverty reduction the poor need access to health care, education, support services, land, credit e.t.c (Khan, 2001). Poor people adopt all kinds of strategies to mitigate and cope with their poverty. The conditions of the poor are influenced by the assets they have at household and community level. According to Dao (2004), their assets include access to natural resources and human capital especially labor among others. How they use these assets is reflected by how they are linked to the economy where they are either trading valuable goods or being exploited for their produce. The dynamics of market exploitation are exacerbated by their inability to cope during the lean periods, thus resorting to taking informal advance loans for a fixed monopolized product supply later during fishing or harvesting of natural resources. The loans are usually taken to meet household consumption or purchasing production supplies.

According to Dao (2004), the poor are vulnerable to risk either from changes in weather, market, health, investment, policy changes which could either increase the chance to move from poverty or increase their poverty state because they are unable to absorb abrupt shocks. On another study by Dao (2004), he found out that high fertility increase poverty because for every additional birth per woman, it leads to a 7% increase to the fraction of the rural people living below the national poverty line in a developing country. These findings show that women play a significant role in poverty alleviation (Todaro & Smith, 2003) including providing labor in agriculture (Dao, 2004) as seen in various countries of the world such as Asia, Sub-Saharan Africa and Latin America. It is thus imperative to have poverty reduction efforts targeting women to improve their productivity and participation in the economy of any government. This proposal intends to identify the impact that value chain interventions has in ensuring women empowerment.

In early 2000, value chain development emerged as an alternative to achieve poverty reduction because of its market-based approach and resolution to new global trading trends of sustainable agricultural products (Stoian *et al*, 2012). Despite the prominent role of the value chain development approach in current development agenda, little is known about its impact on poverty reduction including issues such as women empowerment and waste management. Furthermore, Bangladeshi Medium and Small Enterprises are faced with demand constraints due to poor quality and unattractive product design, non-competitive pricing, non-branded products, high input costs, unreliable supply chain, inappropriate technologies among others (PACE PMI, 2014). A study conducted by Stoian *et al* (2012) concludes that there is need to adopt an asset-based approach to

shield the poor households in the chain against exposure to harmful tradeoffs between value chain optimization and resilience at the household and business level. In this proposal we intend to use an integrated approach to identify the effects of value chain interventions in reducing poverty in farm and non-farm sectors in cognizance of the above challenges.

Research question

i. How effective are the value chain interventions in reducing poverty in selected PACE Sub-sector projects in Bangladesh?

Specific research questions

i. What demographic and socio-economic factors impact on benefits derived from value chain interventions the project participants in PACE?
ii. How did value chain reduce livelihood poverty of PACE project participants?
iii. What are the perceptions of value chain actors regarding waste management?
iv. At what level do women participate in the selected PACE projects?

Aim

i. To assess the effectiveness of value chain interventions in reducing poverty in selected PACE projects in Bangladesh.

Specific objectives:

i. To establish what demographic and socio-economic factors impacting on value chain interventions influence the benefits derived by the project participants of PACE.
ii. To determine the impact of value chain support measures in reducing livelihood poverty of PACE project participants.
iii. To establish the perceptions of value chain actors on waste management.
iv. To determine the level of women participation in the selected PACE projects.

Justification of the study

Various studies have been carried out on value chain development and poverty reduction. This proposal intends to assess the effect of value chain interventions in reducing poverty in both farm and non- farm sectors. The importance of value chain development interventions in poverty reduction is apparent in promoting economic growth, reducing income inequality and unemployment and ensuring everyone in the chain benefit. With the changes in agricultural contexts and resulting changes for rural employment, the need for pro-poor development emphasizes upon the importance of value chain analysis.

The findings will be helpful to development practitioners, policy makers, economists interested in using the value chain approach to reduce poverty or promote micro-enterprise growth in breaking entry barriers in local and global trading opportunities.

It will inform policy makers and researchers on identifying effective assessment strategies and how value chain can be integrated with other frameworks to comprehensively reduce poverty. The study will also address research gap in the explicit role of value chain in reducing poverty among the low chain occupiers such as producers and input suppliers.

Furthermore, the study will help design projects that can mainstream women empowerment in their implementation as well as show ways of promoting women participation, leadership role occupancy and increase motivational engagement in advancing women issues. Thus, projects targeting to raise the status of women will enhance poverty reduction.

Limitations of the study

The study is limited by time to carry out data collection and small sample size.

Operational Definitions

Poverty: refers to the livelihood status of the project participant which consist of any form of injustice, a source of social exclusion, in the distribution of the living conditions essential to human dignity. These living conditions correspond to the capabilities of individuals, households and communities to meet basic needs in the following 10 dimensions: income, education, health food/ nutrition, safe water/ sanitation, labor/ employment, housing (living environment), access to productive assets, access to markets and community participation/ social peace.

Poverty reduction: used interchangeably as poverty eradication or poverty alleviation. Refers to the intention to lessen the status of poverty within households, individual and communities.

Support measures: this is used interchangeably as Value chain interventions. Support measures refers to services such as training, financing, linkage to market and technology adoption offered by PKSF in PACE project.

Value chain: described as the collection of activities that a firm which operates in a given industry undertakes to add value to the product or service in the market.

CHAPTER 2
LITERATURE REVIEW

This chapter reviews various sources (books, journals, newspapers, articles and valid online materials) on poverty reduction and value chain development. It also includes desk review of PKSF documents of the selected projects of PACE. The chapter outlines the key concepts of poverty, poverty reduction, value chain and value chain development.

Poverty

To understand this concept, one must understand how it is defined and measured (Narayan *et al.* 2007). Every organization that envisions a world without poverty must define it. Various literature had tried to define what this concept means. Poor people want to work and improve their lives, they aspire to meet their struggles.

Some people are more prone to poverty than others especially in Asia and the Pacific (IFAD, 2002). The Asian rural poor are characterized by general economic, demographic and social features the common being landlessness or limited access to land with larger families. Access to information about markets, lack of business and negotiating experience and lack of collective organization deprive them of the power needed to interact on equal terms with the other generally larger and stronger market intermediaries (IFAD, 2001).

Bangladesh and poverty

Poverty is a dire problem in rural areas across the world including rural Bangladesh. This situation is usually because of low agricultural productivity, low non-farm economic opportunities, limited land and high population especially in Bangladesh. Bangladesh has the third largest number of poor people in the world. With a population of 156 million living in an area of 147,570 square kilometres (1,045 persons per square kilometre), Bangladesh is thus the most densely populated country in the world. About 80% of the population lives in rural areas and their source of livelihood is agriculture and related non-farm activities. A lot of people suffer from malnutrition, shortage of food due to inadequate diet.

Value Chain Development

Over the past decade, many governmental, private or donor-funded programs have adopted value chain development (VCD) to address goals related to poverty reduction and economic development (Pietrobelli & Staritz, 2013). Underlying the design of these programs is the assumption that smallholders will climb out of poverty when they organize into rural enterprises, when these enterprises link them to business partners committed to win-win relationships, and when the chain actors have access to the right mix of technical, business and financial services. However, despite considerable investments in VCD, there is a poor understanding of whether the underlying assumptions hold true. PKSF, an apex organization has been implementing value chain projects through its Partner Organization (POs). The antecedent project for value chains in PKSF, FEDEC proved that indeed sustainable access to reasonably priced credit for micro-entrepreneurs will significantly increase investments, adoption of improved technologies and practices, resulting in increase in productivity, income, employment and profit, leading to economic growth (FEDEC Project Completion Report, 2014).

The PMI stated the necessity for a transitional cause and effect relationship between value chain actors resulting in entrepreneurial and market agent's sustainable transformation from these interventions (PMI, 2014). PACE adopted a strategic approach of 3 broad categories which are: Business development interventions (related to expansion and benefits of individual businesses), sector development activities (benefit the whole sector) and service market development (benefit main VC businesses). Nevertheless, project interventions were implemented through functional business areas found in microenterprises and businesses with one or more opportunities or challenges.

Value Chain Constraints

According to the pace 2014 final project report, main areas of constraints were product and market development, production and technology, human resources, finance and policy environment. Product and market area common issues identified were poor quality of products and limited access to market and market information. These were to be solved by introduction of new designs through designer services, development of local service providers in specific sectors where demand for specific services was strong (design shoes) new variety of products, improved inputs and providing access to market and market information. Alternatively, in other situations, access

to market and other services could be supported through strengthening producer associations. Low productivity was also identified as a very common constraint for microenterprises including farming communities. Interventions were machine introduction, improved production process, technological support services. Finally, limited technical skill and poor workmanship and knowledge of production workers and supervisors were a common constraint. This was to be improved by hands on training and technical advice.

Enterprise development

Enterprise development is key to tackling poverty, inequality, vulnerable employment and support decent work by accelerating employment generation (United Nations Development Group, 2015). Majority of people are employed in the farm sector where job security and income are low thus requiring economic growth as well as an expansion in working environments (Bell and Newitt, 2010). The United Nations Development Group (2015) reports that smaller scale enterprises account for more than 90% of all enterprises in the world and are critical wellspring of output and employment. But their success is obstructed by demand and restricted access to credit (microcredit). Ferdousi (2015) cited Allam and Ullah (2006) who alluded that MSMEs have fewer than 10 workers and just 20% have between 51 and 100.

Microfinance

According to BRAC (2016) large segment of the society are not provided financial services by either the formal banking sector or by microfinance programmes focused on low-income family units. Thus, this missing middle could be a critical motor for economic growth and for employment if equipped with the ideal tools (BRAC, 2016). Ferdousi (2015) found that financial resources, allow time for adopting new businesses to develop products / services, learning business processes and finding a niche in the market. Lack of capital has been found to prevent the poor from increasing their income through entrepreneurship (Farhana, Shi Cun and Mostak, 2012).

In an empirical study conducted by Ahmed et al (2011) in Bangladesh among Grameen Bank borrowers (with credit) and non-borrowers (without credit), it was found that microcredit programs help most rural women to reduce their poverty. They also found that the 'with credit' women have much lower percentage of poverty incidence, intensity and severity compared to those without

credit respondents. Furthermore, Chowdhury, Mahmud and Abed (1991) observed that the participants of BRAC have more income, owned more assets, and earned more as compared to non-participants.

NON- FARM SUB- SECTOR OF THE PACE PROJECTS

Shoe Sub- Sector (Small Factory Operators)

Global Footwear Industry

Asia continues to be the world's market leader of footwear production with a share close to 84%, followed by Europe with 11% and the lowest being Africa (APICCAPS, 2012). In 2011, European countries led the rank of importers at 40 percent of the world's total imports. The global footwear market had a volume of USD2,370.0 million in 2012 and it is projected to reach USD4,330 million by 2019 with a compound annual growth rate of 8.5% from 2013 to 2019 (Mekuria, 2014). Europe is among the most important importers of leather products from emerging countries such as China, Brazil, India, Russia and the Middle East (Mekuria, 2014).

According to Grebrewahid & Wald (2017) the global market for Footwear forecasted sales will be driven by new design trends and rising discretionary spending among the expanding base of middle class population. Furthermore, other major factors driving the growth in the market include rise of smart concepts such as connected fabrics, footwear internet of things and material innovations including alternatives derived from fruit, palm, mushroom, pineapple and sericin. 3D is increasingly becoming mainstay of shoe manufacturing with the technology enabling manufacturers to cope with the overwhelming demand for a whole variety of shoe designs and mass customization (Grebrewahid & Wald, 2017).

In a study carried out by the Global Industry Analysts, the following were the findings, design freedom and environmental benefits such as elimination of the use of Dimethylformamide (DMF) solvent drive the popularity of PU synthetic Leather Chemicals in the manufacture of footwear; emerging and established footwear brands resort to celebrity endorsement to help spur sales on non-athletic footwear; increased consumer involvement in sports and fitness activities drives the

demand for athletic footwear; the rise of multifunctional fashion drives the prominence of convertible shoes interchangeable with a wide range of dresses (Global Industry Analysts, 2017).

Bangladesh Footwear

In Bangladesh, Footwear industry contributes around 1.54 percent of the country's total export earnings with an average yearly growth of around 29.8% last five years (Financial Express, 2018). It has been suggested that Bangladesh (BD) become a leader of the global footwear market because of its exclusive advantages such as availability of raw materials, affordable labour, foreign investment-friendly policies and priority on leather as an export sector. In addition, it was reported that the leather industry in Bangladesh was the second largest export earning sector with an export volume of US$1.3 billion next to ready-made garment. Furthermore, in 2016, Bangladesh was ranked the 8th footwear producer in the world after manufacturing 378 million pairs of shoes or 1.6% of the total output according to the World Footwear Yearbook (2017).

Despite the success of the Footwear industry in Bangladesh, the industry is still amidst challenges. Challenges of the sector such as a narrow product range, lack of grasping fast fashion export items, sustainable policy support and limited trade facilitations are key hurdles that require to overcome to increase competitiveness in the international market (Gebrewahid & Wald, 2017). The key focus will be to go beyond the traditional notion of being low cost, moving towards more value-added products and investing in product variations (Financial Express, 2018). It is worth noting that the global trade in leather and leather products reflects trends in shifting production to developing countries. The shifting trends of the global leather goods and footwear exports presents Bangladesh with strategic trade opportunities strengthening Bangladesh's positioning in global supply map by increasing production, quality and supply chain efficiency. However, strategically, product development facility and collective brand marketing will be critical factor to make BD competitive.

Footwear and leather goods may be the second largest sustainable export earnings for Bangladesh that stands at a strategically advantageous position for the leather production. According to the Export Promotion Bureau of Bangladesh for the financial year 2013-2014, the country earned US$1.29B by exporting leather products and footwear. Bangladesh exports shoes to about 50 countries. 95% local demand of footwear is met up by local industries.

Bhairab Shoe Cluster is one of the largest leather goods and footwear manufacturing clusters in Bangladesh. There are about 6000 - 6500 factories. Leather, paste, solution, foam, rubber and sewing thread are the major raw materials of this industry. Sewing machine, bob machine, color machine and knife are the main tools of production. Productions are based on orders from stores located in cities. Though not directly, few entrepreneurs send their products to Saudi Arabia, Dubai and Bahrain through middlemen. This bears testimony to the fact that footwear of Bhairab is of high quality, and if the required facilities are provided, they can be a good source of foreign exchange earnings.

Women Entrepreneurship

The status of women had always been to support their counterparts and live up to societal expectations. In the new millennium and the advancement of women empowerment, women entrepreneurship is one of the world's fastest growing widespread segment among the small business sector. Socioeconomic, demographic, cultural and psychological factors affect origination and success of women entrepreneurs (Habib, Roni & Haque, 2005). According to Jyoti, Sharma & Kumari (2011) who cited Afrin, Islam & Ahmed (2008) women are influenced by various reasons to start income generating activities such as earning income, inspiration by success stories of other women, desire for a better life, self- employment, harsh environment, economic necessity, encouragement from family members etc.

There is a consensus among several authors that women entrepreneurship is embedded with multiple challenges. A study conducted by Akinbami & Aransiola (2015) in Nigeria on qualitative exploration of cultural practices inhibiting rural women entrepreneurship development found that most women were culturally restricted to engage in certain businesses… Similarly, in a study conducted by Ghosh et al (2017) on factors hindering women entrepreneurs' access to institutional finance revealed that collateral dispute and lengthy process, suspiciousness, preconception and conservative attitude of the employees and complicacy in loan processing limit women entrepreneurs' access to institutional finance. Whereas, collateral dispute with women entrepreneurs, high operating cost, misuse of disbursed loan, lack of business experience and proper documents and difficulty assessing creditworthiness of the women entrepreneurs demotivate financial institutions to supply fund to women entrepreneurs.

Recommendations by the authors were reorientation of rural communities and cultural sensitivity in order to advance sustainable women entrepreneurship, setting up of relevant policies to enhance fund flow to women entrepreneurs with a view to encouraging women entrepreneurship and ensuring economic progress and women empowerment (Akinbami & Aransiola, 2015; Ghosh et al, 2017).

THEORETICAL FRAMEWORK

Poverty is a multi-faceted concept. It involves gender, market, culture, economy, climate and environment among others (Khan, 2001) thus requiring an integrative and comprehensive approach to reduce it. Solutions to poverty are diverse and complex. It will use the value chain approach, sustainable livelihood framework and the Capital 5ds.

Value chain approach

Value Chain Approach was developed by Michael Porter in the 1980s (Porter, 1985). Value chain has gained much significance in the contemporary commercial and business environment of the globe (Abdelhadi, 2017). In order to market the products in a manner that fulfils the demand criterion of consumers profitably, it is essential that value added products are being produced. In the era of the 21st century, value chain gives enterprises competitive advantage in trading their commodities thereby receiving more proceeds with increased sustainability in meeting customer demand. Enterprises are made up of activities that connect them to each other to improve the value of the business. The value chain is useful to identify partner networks that supports, intervenes, or assists different links of the business. It helps to define relationships and interconnections, understand the flow of products, services, information, payments and identify entry points or key leverage points to improve the value chain (Porrah *et al*, 2017).

In this context, the application of Porter's value chain approach is highly strategic. In the many aspects of the value chain, procurement has gained significance in the present globalized scenario (Abdelhadi, 2017). A value chain management system is described as the collection of activities that a firm which operates in a given industry undertakes to add value to the product or service in the market. The many activities of the organisation include inbound logistics, operations, outbound logistics, marketing and sales, and services. These activities are regarded as the primary activities. In order to support these activities, there are other elements which would contribute to the efficient delivery of the primary activities and add value to the product or service. These are the firm infrastructure, human resources, technology development and procurement. These are known as the support or secondary activities in the value chain management (Porter, 2012).

Value chain analysis

- ✓ Value chain analysis is a tool used to identify key activities in enterprises that form the value chain and gives the enterprise a competitive advantage over others.
- ✓ Competitive advantage is the ability of the enterprise to perform value adding activities better than in competitors.
- ✓ The value chain framework "is an interdependent system connected by linkages" (Potter, 1990 pp 41).
- ✓ Value chain analysis contains the linkage of two areas:
    - First value chain links the value to the organization's activities with its main functional parts.
    - Secondly, assessment of the contribution of each part in the overall added value of the business is made (Lynch, 2003).
- ✓ To carry out value chain analysis, enterprises are split into two areas:
    - Primary activities which are related to production and they include:
        - Inbound logistics- which receives materials from suppliers, stores the sourced raw materials and handle them within the firm.
        - Operations- focuses on production of goods and services.
        - Outbound logistics- focuses on distribution of the final product to customers.
        - Marketing and sales- analyses customer needs and wants; creates awareness about the firm's products.
        - Service – may include pre-installation, after sale revenue before or after the sale of the product or service.
    - Support activities
        - Procurement – purchasing materials necessary for operations with high quality at a low price.
        - Human Resource Management- concerned with recruiting, training, motivation and rewarding the work-force.
        - Technology development- it is concerned with technological innovation, training and knowledge necessary for the enterprise survival.

- Firm infrastructure- includes the planning and control systems such as finance, accounting and corporate strategy.

Value chain approach

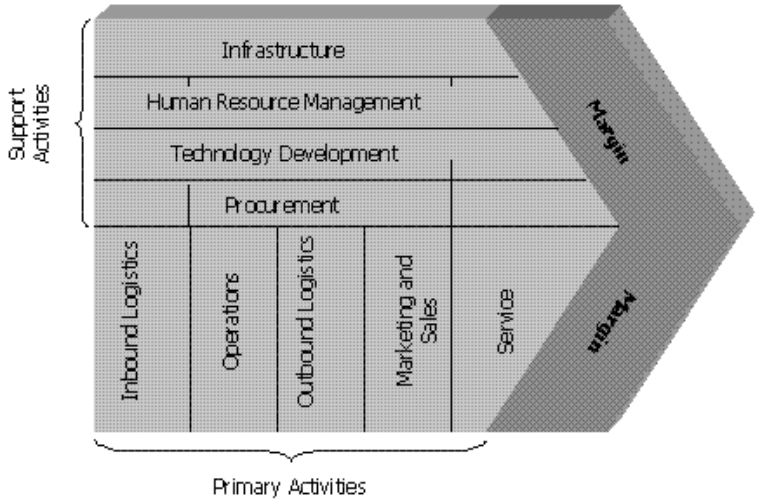


Figure 1: **Value Chain Approach Model**

Source: Porter (1985)

Approach challenge

Value chain approach has its constraint of the return margin of value adding not mainstreaming to all sectors especially those in the lower chain. However, in this study value chain approach will be used along-side other approaches to augment its mishap.

Value chain relevance to PACE- Value Chain Development Component

Various support measures such as technology adoption, training, micro financing is being availed across various sub-sectors such as shoe production, mung bean, buffalo, dry fish, crab and safe vegetable production. The intent of these support measures is to increase income, create employment and reduce poverty. The approach is relevant because of its value of interdependence on each chain. The poor are part of the chain in supplying raw materials or providing cheap labour hence their services are crucial to the success of the whole chain. Therefore, using this concept will enable the poor people to enter the commercial market and improve their livelihood through

the support of other value chain actors. Using this approach, in matters of economic development and poverty reduction, will result in addressing challenges incurred at each level of the chain for the benefit of the new market entrants or upcoming microenterprises of the poor. It will imply various activities such as those being provided through the PACE project which include access to better, cheaper quality inputs, delivery of financial services, enhancing information flow, market access and increasing access to higher value market or value added products.

5CAPITALS

Is an approach that identifies potential niche in the value chain development that is used to improve rural livelihoods as well as improve business performance (Donovan & Stoian, 2012). Changes in assets held by micro enterprise operating households are measured and observed especially those they are directly handling. The core components of this tool is the assumption that the greater the accessibility of household assets to livelihood the higher their well-being

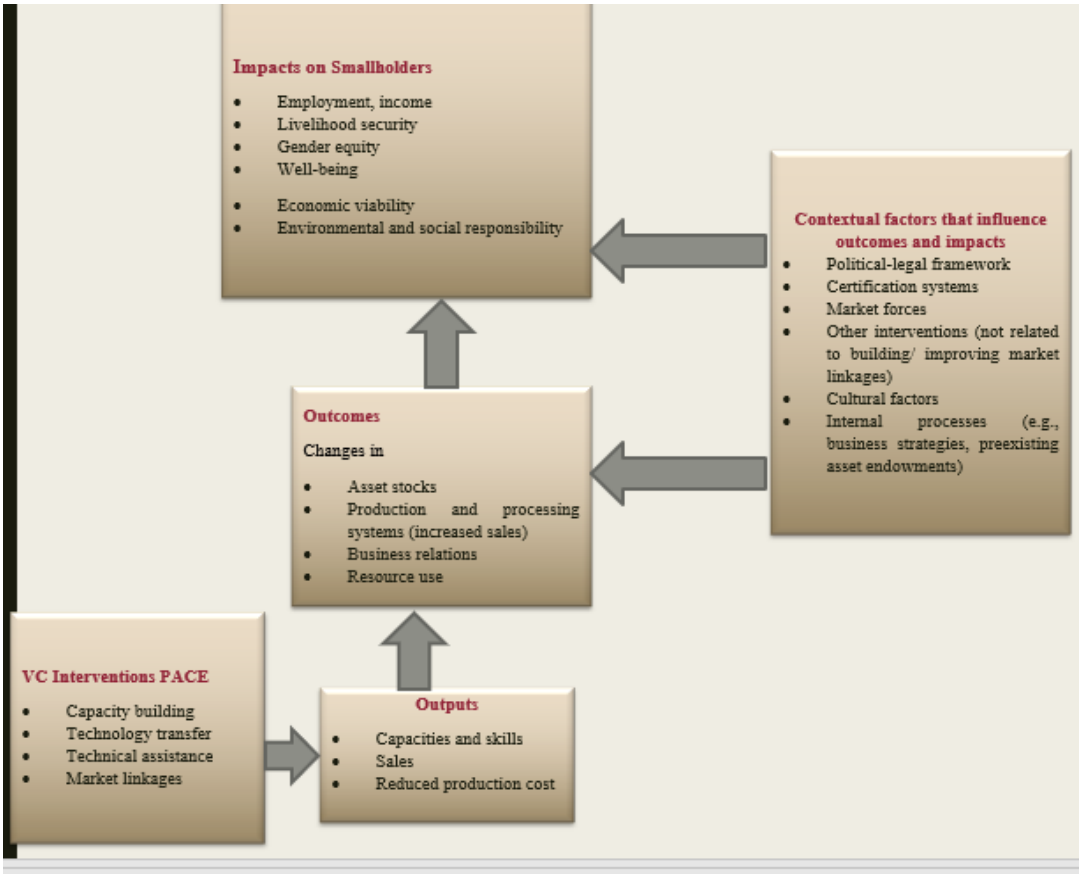


Figure 2: 5Capitals Model

Source: Author, 2017

CONCEPTUAL FRAMEWORK

Poverty is a multi-faceted concept. A lot of studies has been done on its causes, effects, multi-dimensionality, interventions to address it (Addae-korankye, 2014; Alkire & Robles, 2015; Alkire & Santos, 2010, 2013; Centre, 2005; Guo, Harris, Yeung, Linver, & Brooks-Gunn, 2002; Jackson, 1997; Louis Raymond et al., 2006; Srinivas, 2015; Vaz, Alkire, Quisumbing, & Sraboni, 2013). This study seeks to assess the effectiveness of value chain interventions in reducing poverty in selected PACE projects. Since the implementation of the PACE project in the value chain component, an assessment has not been carried out to evaluate the impact of support interventions on the beneficiaries. The conceptual framework provides a brief examination of value chain interventions and how other variables can deflect their impact. The diagram below shows the variables that have an impact on whether the beneficiaries receives the expected outcome.

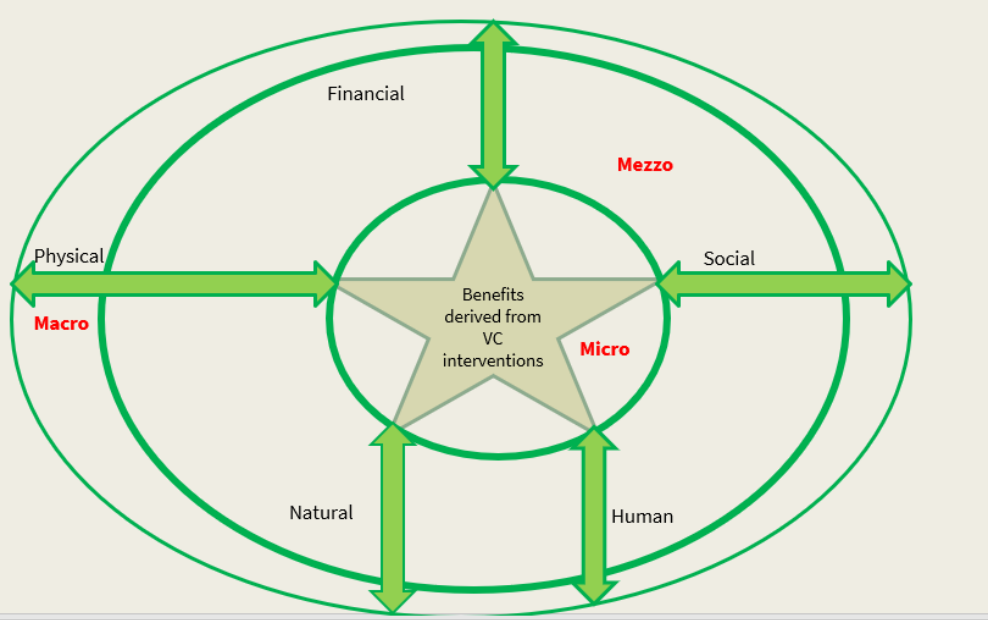


Figure 3: Conceptual framework

Source: Author, 2017

METHODOLOGY

Research design

The case study adopted a mixed method approach.

Sources of data

The data and necessary information were collected from both primary and secondary sources. Secondary data was obtained from the review of baseline studies, journals, reports, newsletters, books and PKSF resource publications. Focus Group Guide, Key informant interviews and questionnaire survey techniques were used to collect primary data.

Targets

Micro entrepreneurs (microenterprise) – Farm: This group were small farmers with good steady income from land and business. They lacked access to bank credit and were involved in NGO microfinance. They suffered from low profitability of farming and lacked access to markets etc. They include input suppliers, wholesalers, farmers who were consulted in the market areas and villages.

Micro entrepreneurs (microenterprise) –Non-farm: This group were small businessmen with a steady income from their businesses. They were involved in shoe production and dry fish. They suffered from prices which were underestimated due to the poor infrastructure and high transport cost. Due to undeveloped market and less bargaining scope they were forced to sell their produce at lower rates.

Study area

The study was conducted at Bhairab Upazila in the Kishoreganj District that has a population of 247 166 (125621 Male and 121545 Female). Bhairab is a semi-urban area of 139.32 sq km, located between 21º 11' and 24º 02' north latitudes and in between 90º 54' and 91º 02' east latitudes (Banglapedia, 2015). It is bounded by Bajitpur Upazila on the north, Raipura and Brahmanbaria Sadr Upazilas on the South, Sarail Upazila on the east, Kuliarchar and Belabo Upazilas on the

West. Bhairab has two main rivers Old Brahmaputra and Meghna. The source of income comprises mainly of Agriculture, non-agriculture labourer, industry, commerce etc. There are various manufacturing sectors for goods such as soap, jute, rice biscuits etc. Bhairab has had a fair share of natural disasters that caused massive loss of life, damage to settlements, livestock, crops and other properties. It has been flooding since 1974, 1988, 1998 and 2004.

Data collection

A sample of project participants were surveyed from the 26th to the 28th of November 2017 for the study. Data collection for Micro shoe value chain actors was carried out from the 26th to the 28th of November 2017 in Bhairab. Prior to data collection, the researcher discussed the tools with the enumerators and explained the study. Primary data was collected through 2 focus group discussions for entrepreneurs and employees. Key informant interviews were held with the project staff. Unobtrusive observation of the value chain actors in micro shoe sub-sector was also used as part of data collection. A content analysis technique was followed to collect secondary data from the documents.

Sampling and sample size

The study was confined to the selected sites and targets of the project participants. Therefore, in selecting the study field the following criteria was considered a) availability of the project participant in the area and b) the distance travelled to reach the operational place.

The respondents were selected by means of random sampling at the site. The PACE project is targeting 500 entrepreneurs (30 input suppliers, 370 entrepreneurs, 30 cutting master, 30 service providers, 20 shoe designers and 20 box suppliers). The sample size was calculated using the sample size calculator of Creative Research Systems Survey Software.

Table 1: **Sample size of Dry Fish for participants / non - participants**

Tool	Project Participants	Non-Project Participants
NON-FARM SUB-SECTOR		
DRY FISH		
Questionnaire Survey	11 Producers	10 Producers 5 Retailers 5 Wholesalers
Key Informant Interviews	5 Staff members	N/A
Focus Group Discussion	15 Producers/ retailers	10 Producers 15 Wholesalers
Dry fish sample size	31	45
MICRO SHOE		
Questionnaire Survey	37 Producers 3 Input suppliers 2 Shoe designers 3 Cutting Master 3 Box Supplier	
Key Informant Interviews	6 Staff members	
Focus Group Discussion	6 Male employees 11 Female employees	
Shoe sample size	137	
FARM SUB-SECTOR		
BUFFALO		
Questionnaire survey		
Key Informant Interviews		
Focus Group Discussion		
Buffalo sample size		
MUNG BEAN		
Questionnaire survey		
Key Informant interviews		
Focus Group Discussion		
Mung Bean sample size		
Grand total	**168**	**45**

*There were no wholesalers in project participants

Data analysis

Data was analyzed using descriptive statistics and thematic content analysis. Quantitative data was collected and analyzed using Excel and Statistical Package for Social Sciences (SPSS). Qualitative data was analyzed using thematic content analysis.

4.0 CASE STUDIES

The next chapter present the four case studies of Value Chain sub-projects in the PACE project representing both the farm sector and non - farm sector. The case studies for the farm sector were carried out in Bhola Sadar, Doulatkhan, Borhanuddin, Lalmohan, Charfashion upazilla of Bhola District for "Buffalo rearing in improved management" at a PO called Grameen Jono Unnayan Sonstha (GJUS) and "increase farmer's income through mung bean production by using modern technology"; while the non-farm sector case studies were carried out in Cox's Bazar "Extension of Fish Drier and Organic Technology to produce Insecticide free Dry fish" and "Development of technical skills, creating employment opportunity and increasing income of Micro Shoe industry Entrepreneurs" in Bhairab Upazilla under Kishoreganj District.

CASE STUDY

This second case study explores the micro shoe industry sub-sector in Bhairab guided by the objectives. Firstly, there is an overview of the micro shoe industry project information. Secondly, subsector challenge followed by value chain interventions and expected project impact. Then, the results in line with study objectives. Finally, the discussion and suggestions to expedite livelihood improvement of project participants.

Overview

PKSF funded a project titled "Development of technical skill, increasing income and creating employment opportunity of Micro shoe industry Entrepreneurs" initiated by POPI. The project was implemented in Bhairab Upazila and Kishoreganj for 2 years (19th April 2016- 18th April 2018) targeting 500 project participants (400 producers, 30 workforce/cutting master, 20 shoe designers, 20 box suppliers and 30 input suppliers). This PACE sub-project was designed to increase income and livelihoods of Micro shoe industry Entrepreneurs through improving technical skill.

Subsector challenge

Small shoe factories Bhairab are faced with tons of problems resulting in production decline, low quality products and low income. The factory owners lack the capacity to solve these problems and ways to identify services critical in improving their production.

4.1 Development of technical skill, increasing income and creating employment opportunity of Micro Shoe industry entrepreneurs

In seeking to determine the effectiveness of different value chain interventions in poverty reduction in the micro shoe industry, it is useful first to consider what type of interventions were offered the industry as well as identify those rolled out to the project participants. This section looks at these interventions briefly and indicate those offered and implemented by the project participants. The project interventions were implemented along functional business areas with one or more opportunities or challenges.

A. Target value chain interventions

i) *Entrepreneurship:* 300 entrepreneurs and local designers (Figure 26) were trained. Skills training was conducted for shoe box producers. POPI organized learning visit (cross visit) for entrepreneurs to enhance their practical knowledge on modern techniques of shoe production. Drums were distributed among producers to manage factory waste (as shown in figure 24 below).

ii) *Product and market:* A market linkage workshop was facilitated with different market actors. In addition, a workshop was organized with different market actors to promote the shoe sector in Bhairab. Producers have started advertising their products using their own brand names. Others provided a warranty of their products for 2/3 months to build buyer's trust. They communicate directly with district buyers and meet the demand of supply orders. They have also initiated sub-contracting. They have show rooms to sell their products as seen in figure 29 below. Brand companies (Shomrat, Paya Paya, Liberty, Shoe Plex, Azad, Ava) now purchase shoes from project supported producers.

iii) *Production and technology:* Input suppliers used to sell locally produced glue and low quality raw materials for shoe production. After receiving value chain support measures, they started selling quality inputs (leather, Rexene, glue and accessories

among others) which increased the demand for quality material. The input suppliers were linked with different brand companies. Their input supply increased two times higher than before. For example, figure 25 below show Md. Mezanur Rahman, a small input supplier at Salam market. After participating in the market linkage workshop the demand of quality materials from his store increased. He now sells quality materials like glue, leather, Rexene and accessories. His income has now doubled.

Several services improved due to the introduction of technology and provision of technical support such as pattern cutting. Services such as Embossing and Screen Printing Services improved as the service providers installed new machines due to service demand of shoe producers. Micro shoe factories have started using heat reactivation technology for better attachment between upper and sole. Because of frequent motivation one of the factories owners purchased a cutting machine. Producers are using sewing machines, spraying machine for enhancing the beauty of the final product for buyer attraction. There is use of high quality glue for attaching sole, upper and ornaments. Figure 28 below shows various technological equipment being used in factories.

iv) *Human resource development:* Masks were distributed among factory workers to increase health awareness as shown in figure 24 below. Factory staff were encouraged to start using nose masks and glue brush. Factories were given drums to put waste. The Designers' skill improved due to mentoring support from project, as they are now able to produce new designs. They learned a skill on market promotion and their products are selling very quickly. The Box suppliers gradually improved their box quality as the demand for quality boxes increased. Sole roughening was also introduced.

v) *Enabling environment:* Issue based meetings were organized with different market actors to address challenges by the shoe cluster. Shoes are now being sold to formal buyers at relatively high prices. Opportunities have been created for female labourers as seen in figure 27 below.

Figure 24: Value chain support interventions
Source: POPI presentation, 2017

Figure 25: Input supplier at Salam market
Source: POPI presentation, 2017

Figure 26: Shoe designer
Source: POPI presentation, 2017

Figure 26 shows Md. Jahangir Alam who is a local shoe designer. He received training from the project on shoe designing. The project also provided mentoring support, and he was able to produce diversified designs for ladies and gents' shoes. The demand for his patterns has increased. He was provided with support in making linkages with producers/factories by the project team.

Figure 27: Women entrepreneur and her female workers
Source: POPI presentation, 2017

Figure 28: use of various technologies
Source: POPI presentation, 2017

Figure 29: Show room for the producers

Source: POPI presentation, 2017

Expected Impact

The project intended

"To increase factory level production through skill development of the workers, provide technological support for quality improvement of the product, linkage development with High Value Market, provide technical support to produce diversified products as per the demand of buyers, linkage development with backward market actors to access quality inputs and services, provide support in business promotion, creating employment opportunity and increasing income" POPI presentation, 2017

Key findings

It is apparent from the results in figure 31 that income has increased since value chain interventions were given project participants. The demographic characteristics highlight that the micro shoe industry in Bhairab is male dominated. There were few female entrepreneurs involved in the Bhairab micro shoe sub-sector whilst those involved as labourers are constantly worried for their safety in a male dominated industry coupled with lack of support by family members for factory working women. The results suggest that despite the distribution of drums to throw waste, environmental safety and health of workers is not paramount in the micro shoe sub-sector as seen in figure 30.

Figure 30: Waste outside the factory and a worker using hands to apply glue

Source: 2017 Field observation pictures

4.1.1 Demographic and Socio-Economic Factors Impacting On Benefits Derived from value chain interventions

4.2.1.1 Demographic information

Different demographic characteristics such as sex, age, literacy level, religion and marital status were investigated to determine how they impact benefits of value chain interventions.

Data in Table 6 below show that the average age group of producers was 35 years for producers, box suppliers and cutting master while, for input supplier and shoe designer was 39 and 41 years respectively. All (100%) value chain actors in the micro shoe industry in Bhairab were male, married and of the Muslim religion. The literacy level of majority of the value chain actors ranged between category 1-5, Producers (75.5%), input supplier (66.7%), cutting master (66.7%) and shoe designer (50%). On the other hand, most (66.7%) box supplier's literacy level was in class category 6-9 and 50 percent shoe designers. There were no (0%) illiterate and above secondary school level value chain actors.

Table 6: Distribution of micro shoe value chain actors by demographic attributes

Variable	**Category**	**Project participants**				
		Producer	**Box Supplier**	**Input supplier**	**Cutting Master**	**Shoe designer**
Age	16-25	0	33.3%	0	0	0
	26-35	62.2%	33.3%	0	66.7%	0
	36-45	35.1%	0	100%	33.3%	100%
	46-56	2.7%	33.3%	0	0	0
	57+	0	0	0	0	0
		M= 34.7838 SD=5.50321	M=35.3	M=39.3	M=35	M=41
Sex	Male	100%	100%	100%	100%	100%
	Female	0%	0%	0%	0%	0%
Marital Status	Married	100%	100%	100%	100%	100%
	Single	0%	0%	0%	0%	0%
	Widowed	0%	0%	0%	0%	0%
	Divorced	0%	0%	0%	0%	0%
Religion	Muslim	100%	100%	100%	100%	100%
	Hindu	0	0	0	0	0
	Christian	0	0	0	0	0
	Other	0	0	0	0	0
Literacy level	0= Illiterate	0	0	0	0	0
	1= Class 1-5	75.7%	33.3%	66.7%	100%	50%
	2= Class 6-9	24.3%	66.7%	33.3%	0	50%
	3= SSC	0	0	0	0	
	4=HSC	0	0	0	0	
	5= Degree	0	0	0	0	
	6= Honours	0	0	0	0	
	7= Masters	0	0	0	0	

Source: 2017 survey

4.2.1.2 Socio-economic information

This section analyzed the socio-economic factors that impacted on benefits derived from value chain interventions in the shoe industry. The factors that were investigated were association membership, relationship with other actors, participation in value chain activities, monthly income, alternative sources of income, members of the household earning income and economic/ poverty status. Table 7 below shows the distribution of micro shoe value chain actors by their socio-economic attributes.

In building relationship and support, value chain actors belong or affiliate with different groups or organizations. It is apparent from this table that Micro shoe value chain actors in Bhairab, (100%) affiliated with NGOs especially Box suppliers, input suppliers and shoe designers and cutting masters (66.7%). In addition, producers affiliated with clubs/ associations (78.4%) as well as a mixed membership of Club/association and NGOs (21.6%). Cutting masters also affiliated with club/associations and NGOs (33.3%).

At producer level, majority (62.2%) of the household members ranging between 1-3 earn income while 21.6% household members of the producers did not earn any income. Furthermore, there were no (0%) household members for the shoe designers earning income. On average (50%) the input suppliers their household members earned income while cutting master and Box supplier two members of their household earned income.

Data in table 7 below shows that all value chain actors in the micro shoe sub-sector except for the producer and input supplier do not have alternative sources of income. Few (2.7%) producers had alternative sources of income and input suppliers (33.3%). Majority of the actors did not have alternative sources of income (100%), they depended on one source of income.

As shown in Table 7 below, value chain actors consider a relationship between them to be very important as seen with shoe designers rating the statement “Relationship with other value chain actors” at 100 percent. Similarly, 51.4 percent of producers consider the relationship to be very important. Others such as input suppliers, cutting master and box supplier also considers the bond with other value chain actors important (100%).

Table 7: Distribution of micro shoe value chain actors by their socio-economic attributes

Variable	Category	Project participants				
		Producer	Box Supplier	Input Supplier	Cutting Master	Shoe Designer
Association membership	Government institution	0	0	0	0	0
	Club/Association	78.4%	0	0	0	0
	NGO	0	100%	100%	66.7%	100%
	Club/ Association and NGO	21.6%	0	0	33.3%	0
Members of the household earning income	0	21.6%	33.3%	50%	33.3%	100%
	1-3	62.6%	66.7%	50%	66.7%	0%
	4-5	13.5%	0%	0%	0%	0%
	6-9	2.7%	0%	0%	0%	0%
Alternative sources of income	None	94.6%	100%	66.7%	100%	100%
	Farming	2.70%	0%	0%	0%	0%
	Grocery store	2.70%	0%	0%	0%	0%
	Service, i.e. job	0%	0%	33.3%	0%	0%
Relationship rate with other VC actors	Very Important	51.4%	0%	0%	0%	100%
	Important	48.6%	100%	100%	100%	0%
	Unimportant	0%	0%	0%	0%	0%
	Very Unimportant	0%	0%	0%	0%	0%
View rate of participating in various value chain activities.	Very Important	32.4%	0%	0%	0%	100%
	Important	67.6%	100%	100%	100%	0%
	Unimportant	0%	0%	0%	0%	0%
	Very Unimportant	0%	0%	0%	0%	0%

Source: 2017 survey

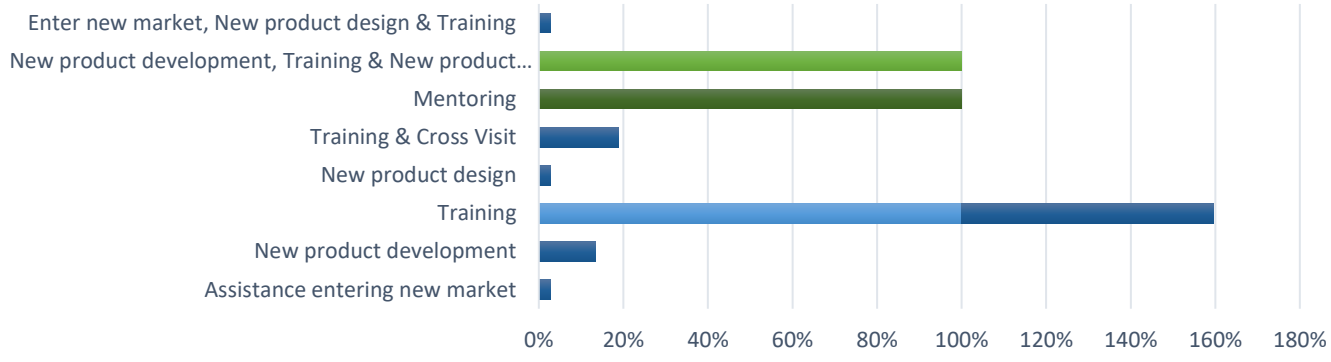
4.1.2 Impact of value chain support measures in reducing livelihood poverty

To elucidate the benefits of support measures in reducing livelihood poverty of micro shoe value chain actors, it was critical to highlight the project objectives or outcomes which guide the responses that were elicited. According to the IFAD internal guidelines for Economic and Financial Analysis of Rural Investment projects (2016), value chains attest to improving steps from low entrant producer to the final consumer of the product. The goal of the value chain support measures was to ensure linkages were efficient and profitable between "upstream" and "downstream" economic agents such as (input suppliers, organized producers, processors, traders, transporters, wholesalers, retailers and financial institutions). Despite the difficulty of integrating the micro entrepreneurs in formal value chains, public private producer partnerships (4Ps) and contract farming schemes for commodities could be included (FAO, 2013; IFAD, 2014). The

effect of the support measures was identified through variables such as income, employment, production, quality, technology adoption, asset accumulation, access to services, acquired life skills, access to market, access to information women inclusiveness and waste management.

4.2.2.1 Value chain development activities micro shoe actors received

To determine the impact of the support to meet the project objectives, micro shoe value chain actors were asked to state or select the activities they participated in. Figure 32 below shows the various value chain support measures that value chain actors participated in to reduce their livelihood poverty. Surprisingly, box suppliers did not outline support measures they participated in. Majority of the value chain actors participated in multiple activities. The most partaken activities were training by cutting master (100%) and producers (59.5%). There were also multiple responses where activities were combined with others such as cross visit and training, or product design.



	Assistance entering new market	New product development	Training	New product design	Training & Cross Visit	Mentoring	New product development, Training & New product design	Enter new market, New product design & Training
Shoe Designer	0%	0%	0%	0%	0%	0%	100%	0%
Cutting Master	0%	0%	100%	0%	0%	0%	0%	0%
Box Supplier	0%	0%	0%	0%	0%	0%	0%	0%
Input Supplier	0%	0%	0%	0%	0%	100%	0%	0%
Producers	2.70%	13.50%	59.50%	2.70%	18.90%	0.00%	0.00%	2.70%

Figure 32: Value chain activities value chain actors participate in
Source: 2017 survey

4.2.2.2 Income

Data in figure 33 below shows the various responses of value chain actors in the shoe 'industry's rating of value chain support to increase their income. Most of the value chain actors strongly agree/ agree to the statement that "my income has increased", producers (85%), input suppliers (100%), shoe designers 100 percent, cutting master 100 percent and box suppliers 100 percent.

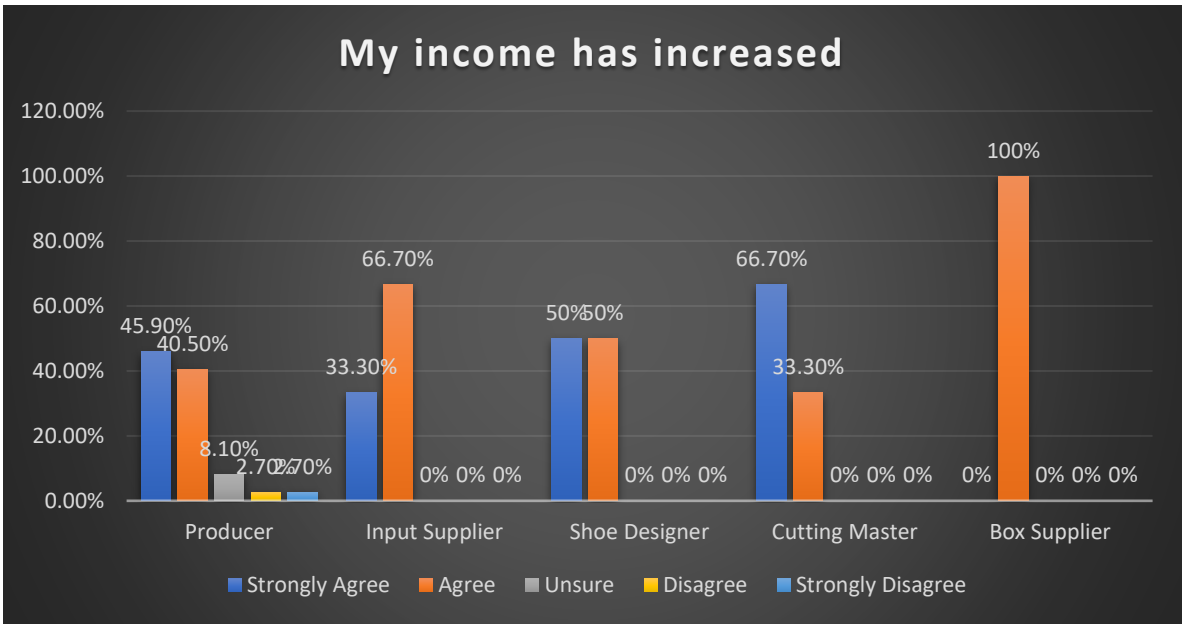


Figure 33: My income has increased.
Source: 2017 survey

4.2.2.2.1 Affordable items using earned income

Figure 34 below shows various items that project participants can now afford using their income. The most significant item at producer level worth 32.4 percent was equipment. Majority (66.7%) of the input suppliers could invest in their business using their earned income. On another hand, all (100%) of the shoe designers purchased equipment for their business while 66.7 percent of the box supplier purchased a factory and all (100%) of the cutting masters were saving their income.

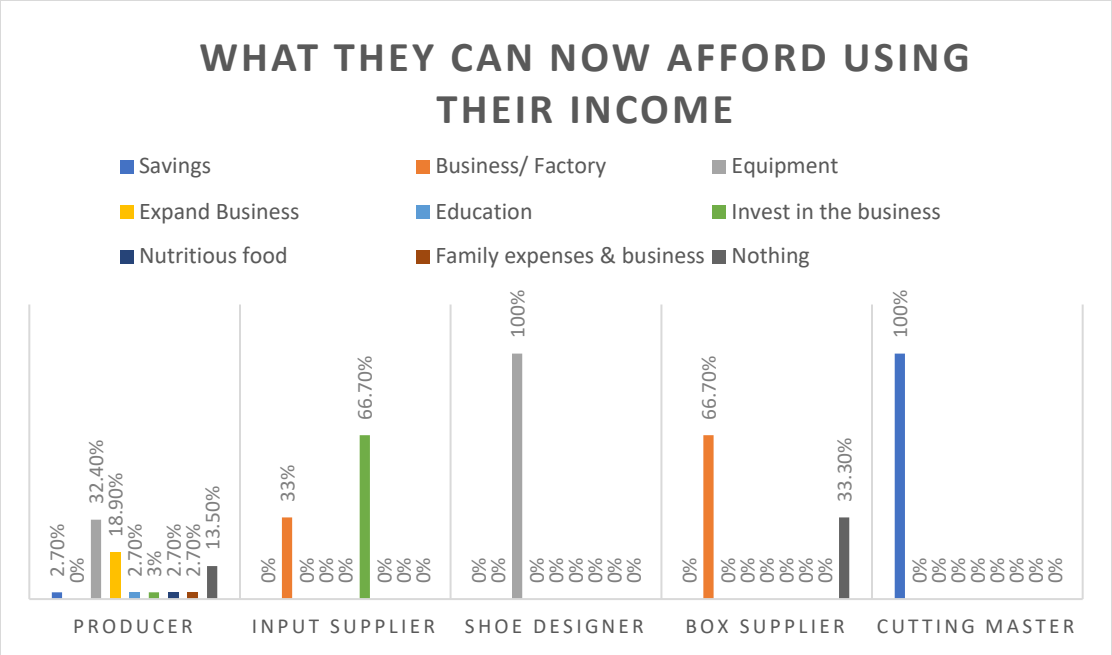


Figure 34: Affordable items using earned income
Source: 2017 survey

4.2.2.3 Employment

Creation of wage employment was one of the goals of the micro shoe industry project. Figure 35 below shows the number of people employed in various value chain enterprises. Majority (72) of employment occurred at producer level which involves the production process where most manpower is needed. It is worth noting that at producer level there were female employees unlike with the other value chain actors where most of the employees were male. The least (0) number of employees were at the shoe designer level whilst others such as input suppliers hired at least one person.

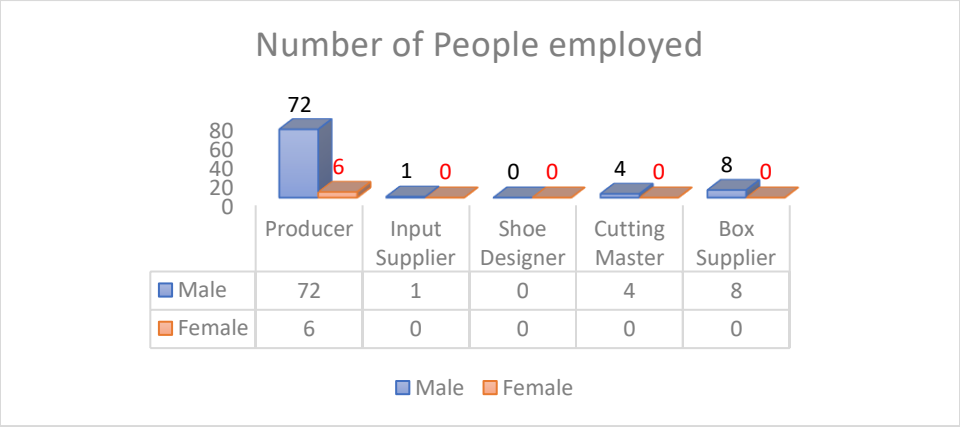


Figure 35: Number of people employed
Source: 2017 survey

4.2.2.3.1 Number of household members employed in the business

Employment of household members has been shown to have a positive contribution to boosting businesses however, Figure 36 below shows that household labour was not utilized by value chain actors in the study. Most of the producers (37), employed 4 female household members and 9 male household members. Other value chain actors did not employ any household member in their businesses.

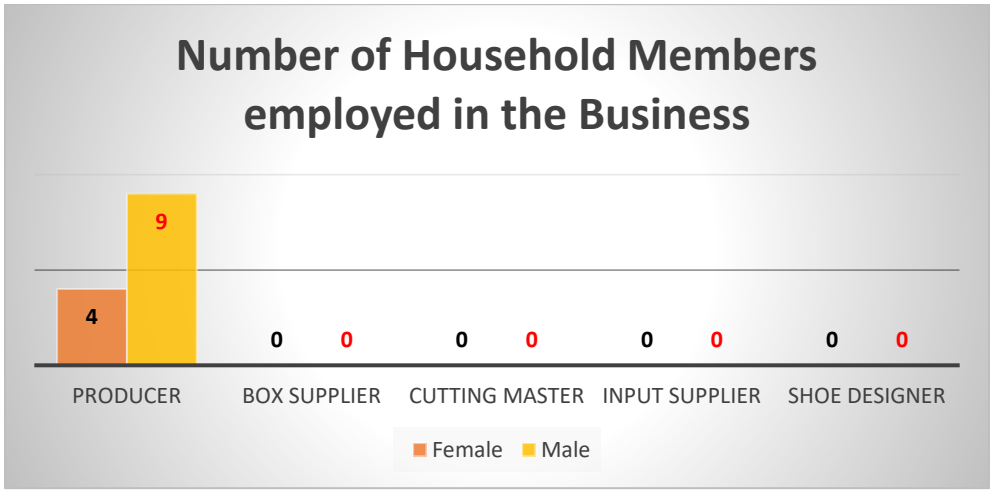


Figure 36: Number of household members employed in the business
Source: 2017 survey

4.2.2.3.2 Number of new employment opportunities created

It is apparent from Figure 37 below show that no (0) new employment opportunities were created by cutting master, shoe designers and input suppliers. Only 38 new employment opportunities were created by the producers and 3 were created by the box suppliers.

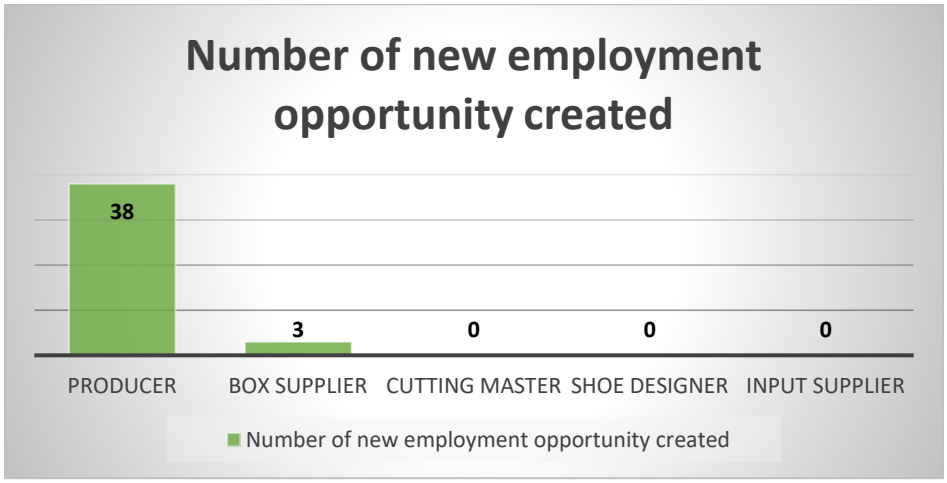


Figure 37: Number of new employment opportunity created
Source: 2017 survey

4.2.2.4 Production

Figure 38 below shows the production increase due to value chain support measures received by projects participants. Majority (100%) of the value chain actors, input suppliers, box suppliers, cutting master and shoe designer said production increased due to the support they received whilst only 83.80% of the producers also attested to the value chain support increasing their production.

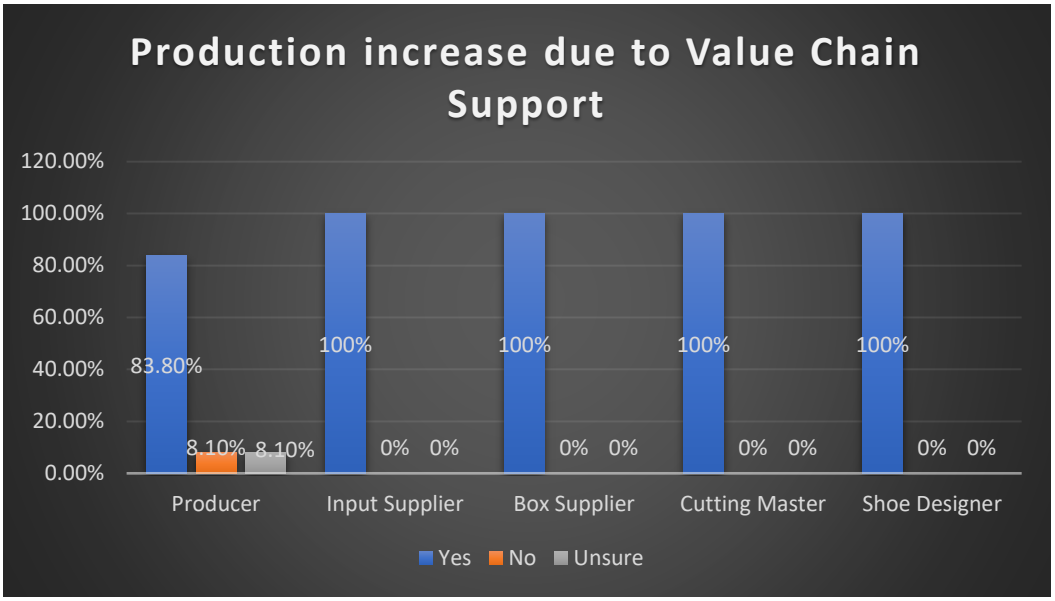


Figure 38: Production increase due to value chain support
Source: 2017 survey

4.2.2.4.1 Product design

Data for product design was collected through open ended questions. The results revealed that all value chain actors especially box supplier, shoe designer, input supplier alluded to their product designs being determined by customers preferences after conducting market demand analysis. In response to the question: 'how did you benefit from the use of technology?' Both two shoe designers shared that they benefitted from the technology as they were "now able to make new product designs".

4.2.2.4.2 Technology and Product Adaptation

Benefits derived from the introduction of the new technology by producers were as follows:

Producers alluded to having more production than they did in the past, quality shoes were now being produced, as well as using the technical skills they have learned. The overall response to the question of how technology benefited them was very positive.

One of the respondents said, "*Production rate is high than before.*"

"*I don't have to go outside of the factory for necessary sewing of products like before?*"

"I*t has improved my product quality?*"

"I*nitially I used heater dry adhesive for the attachment of sole and upper part which was time consuming, but now I use improved heat reactive machine which has made work easier*."

"*Both design and quality have improved.*"

A cutting master alluded that the technology "*increased our production and there is no hard work.*"

Producers shared that, maintenance was the main challenge they face. Only 21 respondents alluded to maintenance as the challenge while others shared lack of parts for the machinery or skilled manpower and other questions were not answered by 4 respondents. And others did not have challenges 9.

The box supplier 1 stated that he is faced with a challenge of unavailable operators while 2 box suppliers did not have any challenges.

Cutting master challenge was the training for the first time to operate the machine, takes time as they could not operate it.

Input suppliers did not have any technology to use and this was not applicable to them.

4.2.2.5 Asset accumulation

It can be seen from the data in table 9 below that majority of the value chain actors strongly agree/ agree with the statement "I have assets I did not have before". Most (83.7%) of the producers strongly agree/ agree to the statement, while input supplier, cutting master and box supplier agree (100%) to the statement. Shoe designer's however, disagree with the statement (100%) and only 10.8 percent of the producers strongly disagree/disagree to the statement. The results also show that 5.4% of the producers are unsure about the statement.

4.2.2.6 Access to health and education

Access to health and education was an indicator that indeed the participation in value chain activities enhanced the enterprise operations such that income increased, and enterprise owners could afford relevant services for their families. Table 8 below shows that majority (100%) of the value chain actors strongly agree/agree to the statement that "I have access to health and education through my income" especially input suppliers, shoe designers, cutting master and box supplier. Only 94.6 percent of producers also strongly agree/ agree to the statement. But, 5.4 percent of the producers were unsure about the statement.

Table 8: Impact of value chain support measures

	Producer	Input Supplier	Shoe Designer	Cutting Master	Box Supplier
Statement	VCD helped me reduce my household poverty.				
Strongly Agree	5.4%	0%	50%	0%	0%
Agree	75.7%	100%	50%	100%	66.7%
Unsure	16.2%	0%	0%	0%	33.3%
Disagree	2.7%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
I have assets I did not have before					
Strongly Agree	45.9%	0%	0%	0%	0%
Agree	37.8%	100%	0%	100%	100%
Unsure	5.4%	0%	0%	0%	0%
Disagree	5.4%	0%	100%	0%	0%
Strongly Disagree	5.4%	0%	0%	0%	0%
I have access to health and education through my income.					
Strongly Agree	8.1%	66.7%	100%	100%	100%
Agree	86.5%	33.3%	0%	0%	0%
Unsure	5.4%	0%	0%	0%	0%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
I can invest more in my business.					
Strongly Agree	27%	33.3%	0%	0%	66.7%
Agree	59.5%	66.7%	0%	0%	33.3%
Unsure	13.5%	0%	100%	100%	0%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
I can take a risk to try new methods					
Strongly Agree	10.8%	33.3%	0%	0%	66.7%
Agree	73%	66.7%	100%	0%	33.3%
Unsure	16.2%	0%	0%	100%	0%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%

Source: 2017 survey

4.2.2.7 Linkage to market

All (100%) shoe designers', asserted that they had challenges with being linked with other value chain actors in the micro shoe industry. Input suppliers, cutting masters and box suppliers did not indicate any challenges regarding the value chain activities they have received. Similarly, for producers, they had challenges with linkage to other value chain actors and market links. At producer level, 24.3 percent did not answer the question while 21.6 percent alluded to challenges with linkage to other value chain actors, 2.7% alluded to market linkage challenges and 51.4% alluded to no challenges at all with the services.

4.2.2.9.1 Channel of product sale

Data in figure 39 below shows that all (100%) shoe designers and cutting masters sold their products themselves. Most (78.40%) of the producers sold their products through a *Bepari* as well as the box supplier (66.70%).

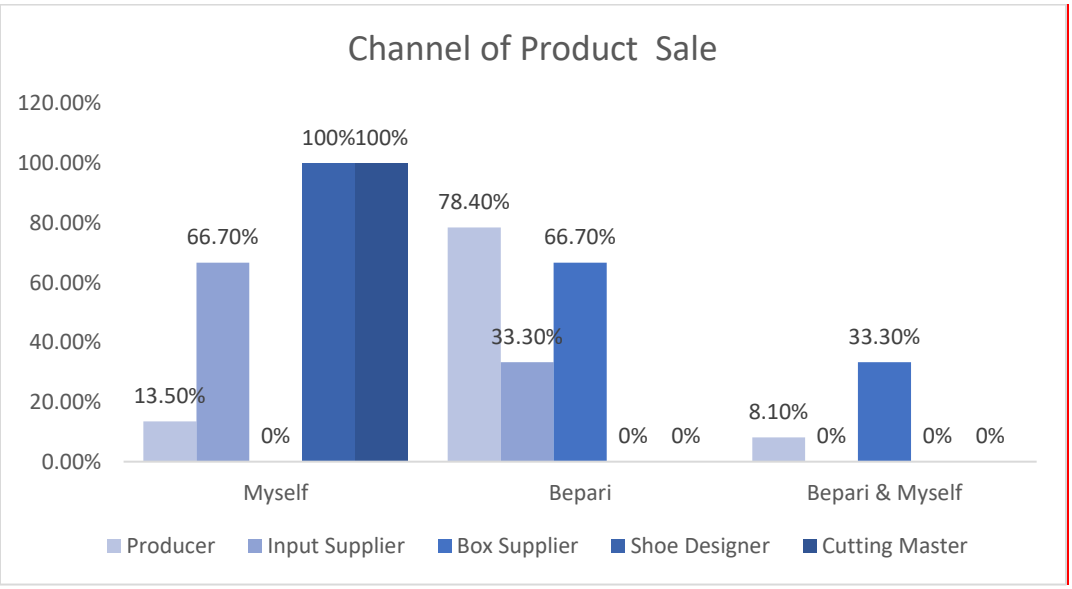


Figure 39: Channel of product sale
Source: 2017 survey

4.2.2.9.2 Transportation

Cutting master and shoe designers, stated that they do not need transportation for their services. Box suppliers alluded that they transport their goods by a Van (100%), while input suppliers the customers collect from their store (66.7%). Producers on the other hand uses variable modes of

transport such as courier, CNG, Auto, rickshaw, bus and at times they use foot to deliver their goods.

4.2.3.0 Market access

Data in table 9 below shows the impact of value chain activities on the actors accessing the market. Most of the value chain actors (input supplier, shoe designer, cutting master) agreed 100 percent that "all the VCD activities were helpful to my business" while 40.5 percent of the producers strongly agreed to the statement. Majority (100%) of the actors, input suppliers, shoe designers and cutting master agreed to the statement that "VCD activities helped me to access the market" and 83.8 percent of producers also agreed. Only 10.8 percent of the producers and 33.3 percent of the box suppliers were unsure about the statement. Majority of the actors strongly agreed to the statement that "customers are happy with my products or services" especially input suppliers (100%), cutting master and box supplier at 66.7 percent respectively and producers (48.6%). Data also shows that 5.4 percent of the producers were unsure about the statement as well as box suppliers (33.3%). Only 73 percent of the producers, 100 percent of the shoe designer, (66.7%) of the input supplier agree to the statement that "I can easily reach the market for my product". Only (5.4%) of producers and 33.3 percent of the box suppliers are unsure about the statement. Cutting master and input supplier do not have challenges in getting a market for their product.

There were several challenges that value chain actors faced when accessing the market. Firstly, Shoe designers got a wrong price for their designs. Secondly, box suppliers received very low profits and at times the factory closed for four months in the year. Lastly, producers suffered loss due to delayed payments of products, low price rates coupled with periods where the factory.

Table 9: Market access

Statement	Producer	Input Supplier	Shoe Designer	Cutting Master	Box Supplier
All the VCD activities were helpful to my business					
Strongly Agree	40.5%	0%	0%	0%	0%
Agree	48.6%	100%	100%	100%	66.7%
Unsure	8.1%	0%	0%	0%	33.3%
Disagree	2.7%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
VCD activities helped me to access the Market					
Strongly Agree	5.4%%	0%	0%	0%	33.3%
Agree	83.8%	100%	100%	100%	33.3%
Unsure	10.8%	0%	0%	0%	33.3%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
Customers are happy with my products or services					
Strongly Agree	48.6%	100%	0%	66.7%	66.7%
Agree	45.9%	0%	100%	33.3%	0%
Unsure	5.4%	0%	0%	0%	33.3%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
I can easily reach the market for my product					
Strongly Agree	21.6%	33.3%	0%	66.7%	33.3%
Agree	73%	66.7%	100%	33.3%	33.3%
Unsure	5.4%	0%	0%	0%	33.3%
Disagree	0%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%

Source: 2017 survey

4.2.3.0.1 Trading agreements

Figure 40 below shows that the value chain actors had trading agreements. All (100%) of the value chain actors who did not have trading agreements were input suppliers, box suppliers and shoe designers. Producers only 75.7 percent did not have trading agreements as well as 33.3 percent of the cutting master. Majority (66.7%) of the cutting master have trading agreements as well as few producers (24.3%).

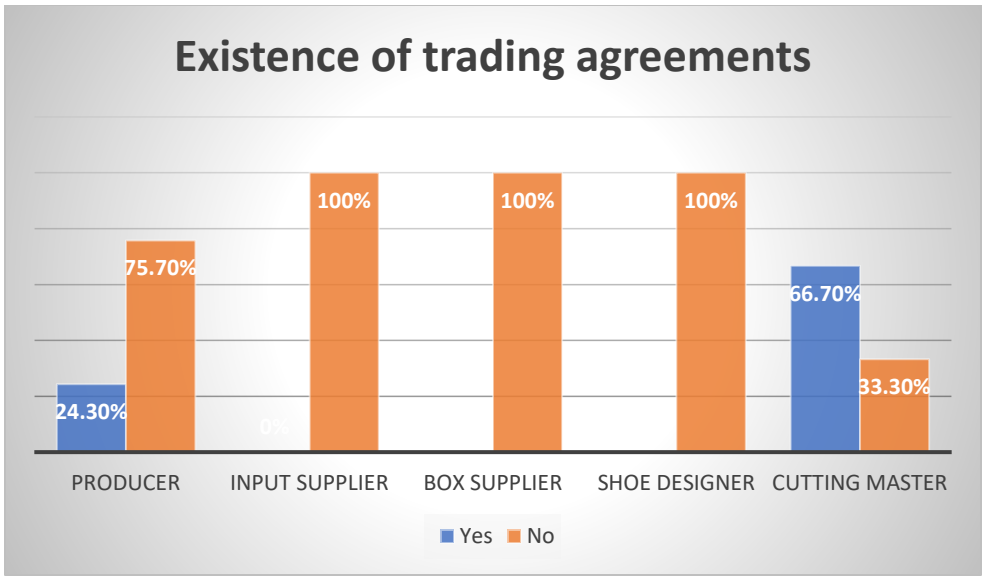


Figure 40: Existence of trading agreements
Source: 2017 survey

4.2.2.8 Access to information

Figure 41 below show how value chain actors access market information for their products or services. Most (100%) of the value chain actors, shoe designers and box supplier visit the market themselves to inquire about customer preferences. Producers on the other hand, 59.9 percent visit the market while 40.50 percent carries out market analysis or research.

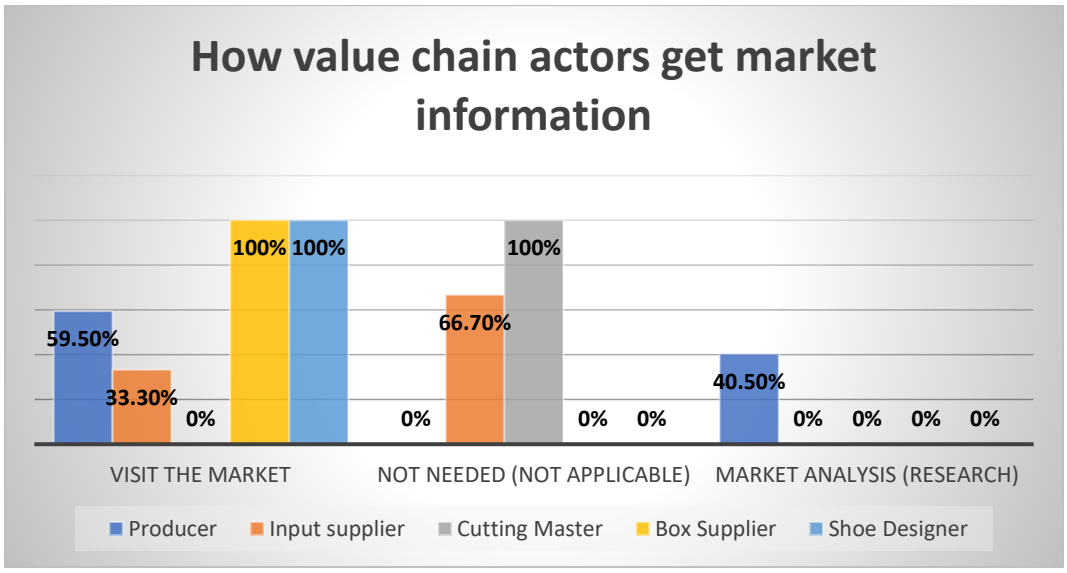
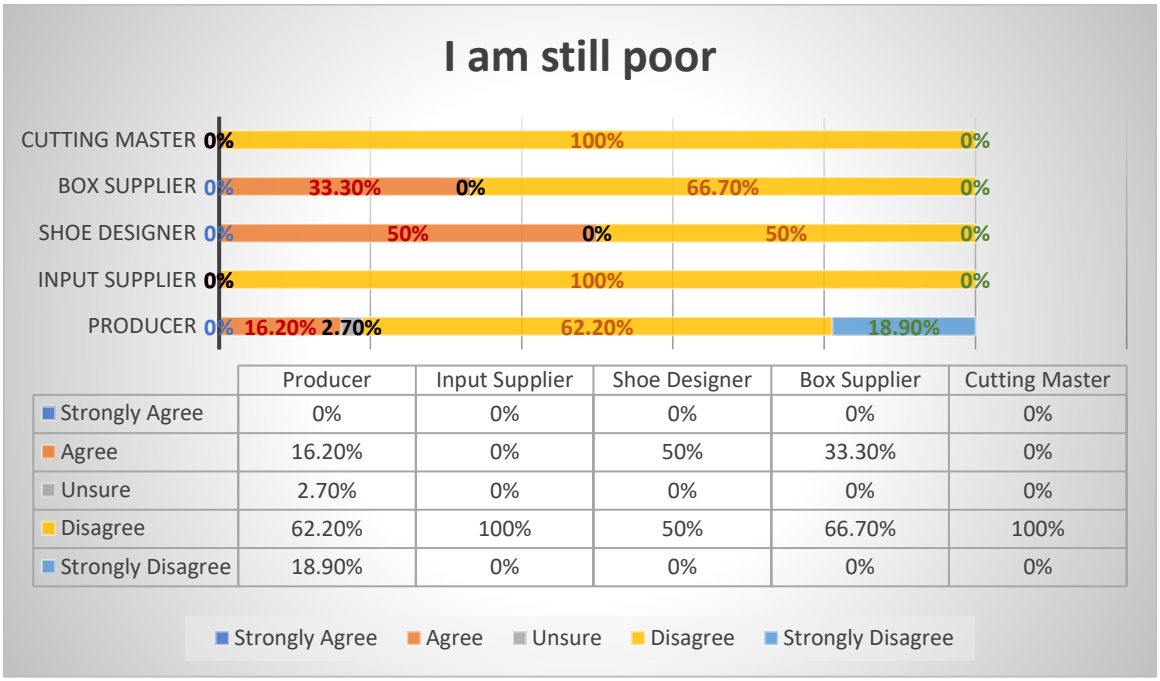


Figure 41: How value chain actors get market information
Source: 2017 survey

Poverty reduction

To ascertain if indeed there was a change in the livelihood status of the value chain actors in the micro shoe industry, project participants were to respond to the statement "I am still poor" by rating it as shown by figure 42 below. Data in figure 42 below shows that all input suppliers and cutting masters, 100 percent disagree to the statement "I am still poor", they were then seconded by box suppliers at 66.7 percent who disagreed to the statement. Only 62.2 percent of the producers disagreed to the statement whilst 18.9 percent of producers strongly disagreed. The results also show that there were other value chain actors who agreed with the statement. An average (50%) of the shoe designers agree to the statement "I am still poor", only 33.30 percent of the box supplier and 16.2 percent of the producers agreed as well.



	Producer	Input Supplier	Shoe Designer	Box Supplier	Cutting Master
Strongly Agree	0%	0%	0%	0%	0%
Agree	16.20%	0%	50%	33.30%	0%
Unsure	2.70%	0%	0%	0%	0%
Disagree	62.20%	100%	50%	66.70%	100%
Strongly Disagree	18.90%	0%	0%	0%	0%

Figure 42: I am still poor
Source: 2017 survey

4.2.3 Level of women participation in selected PACE Sub-sector projects

It is worth noting that it was indicated in the PACE project final Design Report the expectation of PACE in encouraging participation of poor women in value chain development activities. Furthermore, it was alluded that the project would address through its value chain processes activities encourage women participation and address gender-based constraints that women face.

Data on women participation was collected through questionnaires, observation, KII and FGDs. A Likert rating scale was also used to ascertain the rate at which micro entrepreneurs view women inclusiveness in business operations and management.

4.2.3.1 Sex of the enterprise owner

Figure 43 below shows the sex of the enterprise owners who participated in the study. There was only 1 female enterprise owner at producer level out of 48 respondents. From the FGD it was noted that women in the shoe industry work as laborer and they face discrimination from the society as the job is hard labor with lowly wage payment. It was discovered that, women employees prefer to work with a fellow female enterprise owner as she could understand the female needs her employees had and availed services to meet them.

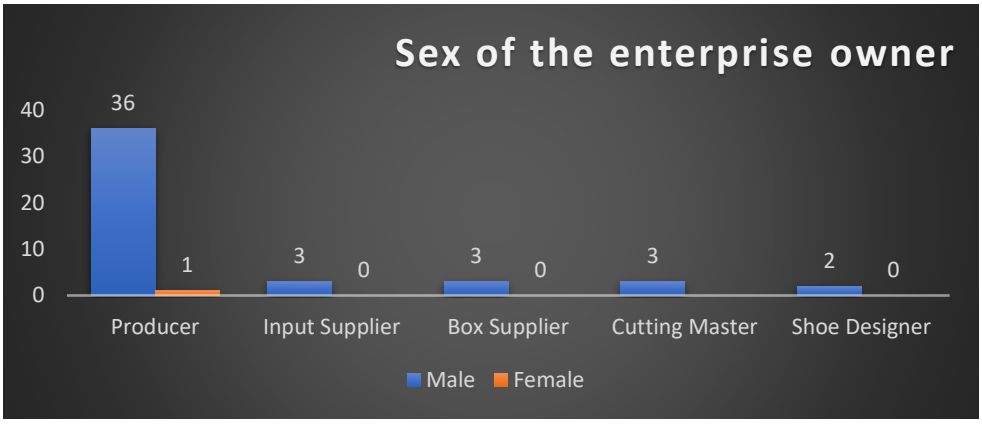


Figure 43: Sex of the enterprise owner
Source: 2017 survey

4.2.3.2 Women participation

Table 10 below shows that majority of the enterprise owners strongly agree/ agree to the statement that "Women should be involved in entrepreneurship" as shown by 100 percent agreement by shoe designers and cutting master, only 72.9% of producers and a mere 33.3% agreement by box supplier and input supplier. It is worth noting that 66.7 percent of the input suppliers were unsure about the statement as well as 8.1 percent producers. Only 18.9% producers disagreed with the statement.

A statement with societal expectations of women was asked to identify the perception of entrepreneurs regarding women participation in business. The results show that at producer level only 21.9 percent strongly agree/ agree to the statement "women should only focus on household chores". On average shoe designers strongly agree with the statement as well as 50% disagree with the statement. Box suppliers mostly 66.7% of them agree with the statement and 33.3% of cutting masters as well. Surprisingly, input supplier's 100 percent disagree with the statement despite their view regarding women entrepreneurs. Most of the producers at 73 percent strongly disagree/disagree with the statement as well as 33.3 percent of the box suppliers.

To ascertain their perception on men being involved in household chores, enterprise owners agreed to men contributing to household chores. Majority at 100 percent agree to the statement "men should also contribute to household chores i.e. collecting firewood, water etc." especially box suppliers, cutting masters, shoe designers and input suppliers. Only 64.9 percent of producers strongly agreed/ agreed with the statement. A few 21.6 percent of producers strongly disagreed/ disagreed with the statement while 13.5% were unsure about the statement. Majority 100% of the enterprise owners agree with the statement "women should only provide supportive role in business at household level" except 56.8 percent producers who disagreed with the statement.

4.2.3.3 Female leadership

Table 10 below shows that majority of value chain actors were unsure about the leadership of women or women in managerial positions. Cutting masters were 100 percent unsure about the statement "Women should be given managerial/ leadership positions in businesses" as well 66.7% of box suppliers and input suppliers and 10.8% of producers. Only 100 percent of shoe designers agree with the statement and 68% of producers and 33.3 percent of box suppliers.

4.2.3.4 Access to special services

It can be seen from the data in table 10 below that only 67 percent producers strongly agree/agree to the statement "Women should have access to special services in institutions" whilst 100% shoe designers disagree with the statement. Cutting masters and box suppliers were 100 percent unsure about the statement as well as 66.7% and 16.2% input suppliers and producers. Only 16.2 percent of producers disagree with the statement.

Table 10: Perceptions of enterprise owners regarding Women participation

Statement	Producer	Input Supplier	Shoe Designer	Cutting Master	Box Supplier
Women should be involved in entrepreneurship.					
Strongly Agree	35.1%	0%	0%	0%	0%
Agree	37.8%	33.3%	100%	100%	33.3%
Unsure	8.1%	66.7%	0%	0%	66.7%
Disagree	18.9%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
Women should only focus on household chores.					
Strongly Agree	2.7%	0%	50%	0%	0%
Agree	18.9%	0%	0%	33.3%	66.7%
Unsure	5.4%	0%	0%	66.7%	0%
Disagree	21.6%	100%	50%	0%	33.3%
Strongly Disagree	51.4%	0%	0%	0%	0%
Men should also contribute to household chores i.e. firewood collection, water etc.					
Strongly Agree	2.7%	0%	0%	0%	0%
Agree	62.2%	100%	100%	100%	100%
Unsure	13.5%	0%	0%	0%	0%
Disagree	18.9%	0%	0%	0%	0%
Strongly Disagree	2.7%	0%	0%	0%	0%
Women should provide only supportive roles in businesses at household level.					
Strongly Agree	0%	0%	0%	0%	0%
Agree	21.6%	100%	100%	100%	100%
Unsure	18.9%	0%	0%	0%	0%
Disagree	56.8%	0%	0%	0%	0%
Strongly Disagree	2.7%	0%	0%	0%	0%
Women should be given managerial/ leadership positions in businesses.					
Strongly Agree	5.4%	0%	0%	0%	0%
Agree	67.6%	33.3%%	100%	0%	33.3%
Unsure	10.8%	66.7%	0%	100%	66.7%
Disagree	16.2%	0%	0%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%
Women should have access to special services in institutions.					
Strongly Agree	10.8%	0%	0%	0%	0%
Agree	56.8%	33.3%	0%	0%	0%
Unsure	16.2%	66.7%	0%	100%	100%
Disagree	16.2%	0%	100%	0%	0%
Strongly Disagree	0%	0%	0%	0%	0%

Source: Survey 2017

4.2.3.5 Delegation

Results in table 11 below shows that 24.3 percent of producers never delegate women for leadership/ managerial responsibilities. All (100%) Shoe designers rarely delegate leadership/

managerial responsibilities to women as well as 2.7% of producers. Producers mostly 48.6 percent often delegate leadership/ managerial responsibilities to women as well as 33.3 percent of input suppliers, cutting master and box supplier. The results also show that women were sometimes (66.7%) delegated leadership/ managerial responsibilities especially by input suppliers, cutting master and box supplier as well as 21.6 percent of producers.

Table 11: Women delegation

Statement	Producer	Input Supplier	Shoe Designer	Cutting Master	Box Supplier
How often do you delegate women for leadership/ managerial responsibilities?					
Mostly	2.7%	0%	0%	0%	0%
Often	48.6%	33.3%	0%	33.3%	33.3%
Sometimes	21.6%	66.7%	0%	66.7%	66.7%
Rarely	2.7%	0%	100%	0%	0%
Never	24.3%	0%	0%	0%	0%

Source: Survey 2017

4.2.4 Perceptions of value chain actors on waste management

Data in table 12 below shows that majority of the value chain actors (Input supplier, Shoe designer, Cutting Master and Box Supplier) do not have waste collection plan while 59.5 percent of the producers had a waste collection plan. Furthermore, when the respondents were asked about the importance of waste management in the business and at home, most of the value chain actors who completely (100%) said yes were cutting master and box supplier. Producers most of them (81.1%) also answered yes regarding their thought on importance of waste management in business and at home. Shoe designers on the other hand disagreed (100% no) to the question. Most of the value chain actors do not have a recycling initiative in their businesses, for example, producers' 97.3 percent, input supplier and shoe designer 100 percent, cutting master and box supplier 66.7%. All (100%) box suppliers and shoe designers showed interest to participate in a recycling program, while only 54.1 percent of the producers and 66.7% of the cutting master also showed interest. All (100%) shoe designers alluded to not interested in any recycling program.

Table 12: Perceptions of value chain actors on waste management

Statement	Producer	Input Supplier	Shoe Designer	Cutting Master	Box Supplier
Do you have a waste collection plan?					
Yes	59.5%	0%	0%	0%	0%
No	40.5%	100%	100%	100%	100%
Do you think waste management is important in business and at home?					
Yes	81.1%	66.7%	0%	100%	100%
No	18.9%	33.3%	100%	0%	0%
Do you have a recycling initiative in your business?					
Yes	2.7%	0%	0%	33.3%	33.3%
No	97.3%	100%	100%	66.7%	66.7%
Would you be interested in participating in a recycling program?					
Yes	54.1%	100%	0%	66.7%	100%
No	45.9%	0%	100%	33.3%	0%

Source: Survey 2017

DISCUSSION

The purpose of this case study was to assess the effectiveness of value chain interventions in reducing poverty in selected PACE Sub-sectors in Bangladesh. These results are likely to inform PACE PMU and IFAD on the impact of value chain interventions and justify the need for modification to increase it. They can also be used to inform policy makers when making pro poor programs that promote entrepreneurial development for the disadvantaged members of society.

Breaking market entry barriers and rentals in the value chain has been alluded to be difficult for micro entrepreneurs. The results of the case study in Table 8 confirms that majority of the project participants accessed the market, but they faced challenges. These market entry barriers such as low price, bargaining of customers and delayed payments hampers the growth of the businesses (Jamieson et al, 2012).

Henceforth, small entrepreneurs have given up the thought of trading amongst the major players of the industry due to the difference in terms of business size, technological use and efficient operation of production. This case study investigated the impact of interventions in ensuring access to market, increasing income, increasing production and ensuring employment creation among others. The results indicated that micro shoe factories in Bhairab were small and medium sized with at least 10 employees. Majority were using traditional tools while a few were using technology. Furthermore, there were few employment opportunities created and production appeared to be as per customer demand.

The results show that the micro shoe industry in Bhairab Upazilla is patriarchal in nature with a few women entrepreneurs working alongside their husbands. In this case study, there was only 1 female entrepreneur while others were workers. A considerable amount of literature has been published on the women participation in male dominated industries. These studies suggest that ascriptive features such as sex should not affect productivity of the worker but, in the productivity variation between male and female employees access to determinants of production such as skill training and education are skewed towards men (Lim,1987). Furthermore, literature asserts that familial responsibilities hamper women's mobility, stability and efficiency as a worker. Attitudes of family members, employers and women themselves, domestic responsibilities and lack of skills limit their employment opportunities and reduce their bargaining position in the labor market (Lim, 1987). It is thus imperative to note the barriers that women entrepreneurs are faced with that reduces the success of their businesses.

Despite the challenges identified, the micro shoe sub sector has made a positive impact on the lives of the micro entrepreneurs. The results corroborate the findings in which project participants were able to purchase assets, invest in businesses and afford education for their children and access health care. These outcomes will in turn reduce poverty within households and improve their human, social, financial, physical factors and natural factors that affect the benefits of the value chain support interventions as previously highlighted in the theoretical and conceptual framework.

SUGGESTIONS TO EXPEDITE LIVELIHOOD IMPROVEMENT

i. Involvement of women as entrepreneurs in small shoe factory forward market engagement for example transport sub-contracting.
ii. Special services for women (widow, divorcee, single women) to increase shoe industry participation (to increase more involvement of women).
iii. There is need to continue hands on training in operating equipment.
iv. Mentoring and coaching of women to be proactive and occupy leadership positions in businesses.
v. More public emphasis and raising awareness on the importance of education and training for women.
vi. Establishments of code of conduct between value chain actors in the sub-sector to improve their functioning and ensure value addition benefits all.

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ANNEXURE 1: TERMS OF REFERENCE

IFAD supports Value Chain Development (VCD) in different forms across the economic sectors. In order to assess the PACE VCD support interventions in this period and to provide recommendations for improvement, IFAD through a partnership with Global Masters in Development Practice Secretariat, tasked a second-year final student to carry out quick assessment of the supports given to the participants of the project. The intention of this assessment is to assist the Project Management Unit (PMU) establish the effectiveness of the supports provided to its beneficiaries under its Value Chain Development, technology and product adaptation components. As well as determine the effectiveness of the project activities in reducing poverty. This assessment is also expected to be helpful to the student to learn about development issues in the context of a country such as Bangladesh.

The deliverables of this field work include but not limited to:

- The student to visit various project locations, meet participants and collect first hand data.
- Producing and submitting a comprehensive report based on student work with the project.
- The student is to give a presentation highlighting major findings and recommendations.
- The student to spend a reasonable amount of time with the Project Management Unit (PMU) and assist develop some knowledge management products based on her work.

The proposal intends to assess the effectiveness of the support interventions provided to beneficiaries of PACE under the value chain development and technology & product adaptation components. The assessment will aim at the following outcomes:

- Sustainable inclusion of Micro Enterprises and businesses in value chains in agriculture, off farm and service sectors to up-scale business, production technologies and enhance access to markets.
- Proven technologies and products introduced to Micro Enterprises.

The assessment intends to focus on PACE VCD interventions in several locations (districts). These districts will be sampled accordingly with recommendations from the PMU. The assessment will also involve desk review of reports and program documents.