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Work Spaces for Women in the Mussel Industry Value Chain of Jiabong, Samar in the Philippines: Promoting Small-scale Entrepreneurship

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Abstract

Green mussel, *Perna viridis* (Linnaeus, 1758) farming in Jiabong, Samar in central Philippines is an important livelihood option, yet has remained an "infant" industry. The Industry has potential because of its employment-generation capacity, the increasing market demand for fresh and processed mussels and the social benefits that accrue to the mussel stakeholders.

The strategies for the promotion of small-scale entrepreneurship for women in the mussel industry are identified in this study by using a Value Chain Analysis (VCA). There are opportunities that exist and work spaces that women micro-entrepreneurs occupy in the various production stages of the male-dominated mussel industry. These unfold from the current state of women's productive-reproductive work and community activities, along the entire value chain from the mussel growing stage to its harvesting, processing, and trading (both fresh and processed). In this scenario, there are practical and strategic gender needs which have to be addressed to expand and improve women's work spaces that have to go beyond the traditional marketing/trading that women are engaged in. Strengthening women's skills and entrepreneurial capabilities along the value chain will increase women's income from increased employment and engagement in a more gender equitable mussel industry.

Introduction

It was in the 1970s that green mussel, *Perna viridis* (Linnaeus, 1758) farming was introduced in Samar in central Philippines. They could have come through the bilge water of the ships plying the islands via Maqueda Bay in Samar (FAO 1999). Today, mussel farming has expanded in area, employment, and in its contribution to livelihoods and incomes.

In this male-dominated industry, what are the work spaces for women? What are their roles in the different stages of mussel production and processing? What are their practical and strategic gender needs (PGNs and SGNs) such that, by addressing these needs, productivity is improved

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and gender equity along the mussel value chain is promoted? What investment opportunities and entrepreneurial initiatives are open to the women?

This paper tries to explore these questions by conducting a gendered Value Chain Analysis (VCA) in Jiabong, Samar in 2012. Jiabong is the largest of seven municipalities in Samar and is known to be one of the biggest mussel producers in the area. Key Informant Interviews (KIIs) with the Municipal Agriculturist, the persons-in-charge at the Department of Trade and Industry, at the Local Government Unit of Jiabong and at Bureau of Fisheries and Aquatic Resources (BFAR) were conducted. Secondary data was also collected from these offices.

A quick survey among the mussel operators along the value chain was also undertaken. Respondents included twelve value chain operators: six mussel farmers/producers, three traders/sellers and two mussel processors. The KII guide as well as the survey questionnaire included the following parts: steps in mussel production processing and trading/marketing, strengths and weaknesses of the local mussel industry, the PGNs and SGNs of women engaged in mussel production and the investment opportunities for women. A balance in the number of male and female respondents was considered.

A brief on the mussel industry in Jiabong

In 2005, Jiabong had the biggest mussel farm area in Eastern Visayas at 117.05 ha with the volume of mussel production being 7,937.65 tonnes, equivalent to 14,7953 sacks and an estimated value of PhP 31.09 million or USD 605,922.72 (at an exchange rate of USD 1 = PhP 51.31). Jiabong now has 160 ha of mussel farms, with an estimated value of production of PhP 32.16 million or USD 626,754.04 (Table 1). Prices of mussel (locally called *tahong*) ranged from PhP 150 (USD 2.92) to PhP 21 (USD 4.19) per sack. These years also witnessed the emergence of *tahong* processors. There were new investments in the production of *tahong* crackers and bottled *tahong*.

The success stories, however, met challenges of declining mussel production in 2008. The decline was primarily due to pollution (BFAR 2009), the deterioration in the condition of the water, the presence of pathogenic bacteria (Docdocan 2008), and harmful algal blooms (HAB) or "white tide" that killed the mussels (Docdocan 2009). It was also caused by waste from upland areas and households (Senate PSR No. 914, 2012). The traditional use of bamboo poles to attract mussel spats may have likewise contributed to increased siltation and prevented adequate water circulation within the mussel area. These resulted in a 90% decline in mussel production over the 117 ha of mussel farms. The damage affected 137 registered mussel farmers and 255 households (Labro 2011) amounting to PhP 38 million (USD 740,596) with PhP 28.62 million (USD 557,786) being the losses to the industry in Jiabong alone. Prompt response from BFAR in 2009 included massive coastal clean-up. Mussel farmers hauled 37 truckloads of garbage from 67 ha of mussel farms (Quirante 2009). BFAR consequently established techno demo farms, designated regulated zones and introduced the use of environment-friendly farming method.

Table 1. Mussel producers in Samar by farm area and the volume and value of mussel production, 2005 & 2006.

LGU	Area devoted for mussel culture (in ha)		Volume of production (in kg)		Estimated value of production (in PhP)	
	2005	2006	2005	2006	2005	2006
Jiabong	117.05	160	7,937,650	6,431,750	31,089,895	32,158,750
Villareal	42.60	48	2,088,300	2,378,650	8,353,200	11,417,520
Tarangnan	10.00	11	135,000	220,650	540,000	970,933
Catbalogan	17.23	19	630,000	529,050	1,890,000	2,433,745
Talalora	3.00	3.5	221,650	241,666	664,950	1,063,260
Zumarraga	2.40	3	80,000	104,166	288,000	458,260
Daram	1.90	2	63,300	76,666	227,800	337,260

Source: Jiabong Municipal Agriculture Office.

The product and the market

Jiabong mussels are generally sold fresh and shipped out daily. Processed mussels e.g. *tahong* crackers and bottled mussels which come in garlic and *adobo* flavour are produced and sold less frequently. Almost all produce goes to domestic markets/retailers.

The mussel value chain

The mussel Value Chain (VC) consists of a sequence of productive processes (functions) beginning with the provision of specific inputs for mussel production, to transformation or processing, marketing and up to final consumption (Fig.1). It can likewise be viewed as a series of institutional arrangements linking and coordinating producers, processors, traders and distributors of mussels and mussel products. At the micro level are the businesses that are found in each VC function. They are called the VC operators and the operational service providers; each one with specific activities. At the macro level are VC enablers which are composed of various support services to VC operators. At every VC level, value is added to the product thereby, generating more incomes, more investments and more employment.

The operators and enablers

As of 2010, there were 97 mussel farmers. Only three were women (Table 2). In mussel processing, there were only two entrepreneurs; one of whom was a woman. In processed *tahong* retailing, on the other hand, most of the fourteen entrepreneurs were women. There are also the retailers of fresh mussel who are mostly composed of the wives of the mussel growers. The relationships among these VC operators are shown in figure 2.

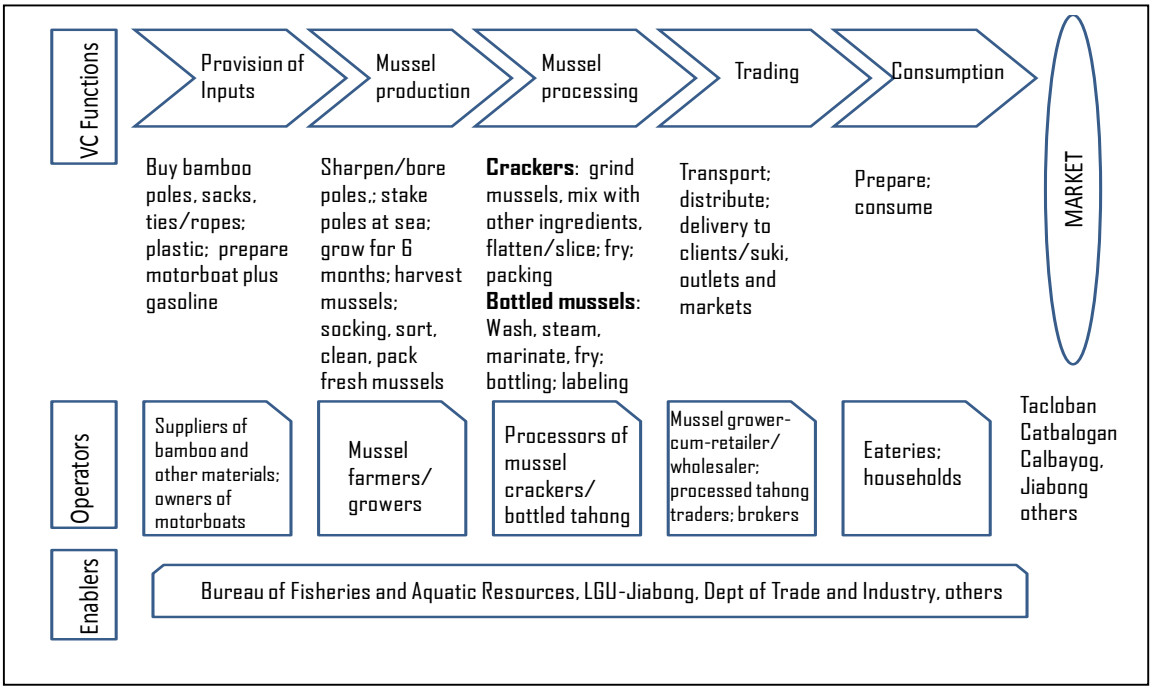

Fig. 1. The mussel value chain map, Jiabong.

Table 2. Mussel farmers in Jiabong, 2010.

Barangay	Number of mussel farmers			Method used	Number of poles
	Male	Female	Total		
Jia-an	20	-	20	Staking	One farmer with 1000 poles 19 farmers with 200 poles each
Alejandrea	33	2	35	Staking	3 farmers with 1000 poles One farmer with 500 poles 31 farmers with 200 poles each
Malobago	19	1	20	Staking	All 20 farmers have 200 poles each
Macabetas	22	-	22	Staking	All 22 farmers have 200 poles each
TOTAL	94	3	97		

Source: Jiabong Municipal Agriculture Office.

Strengths and weaknesses of the mussel VC

It is imperative for operators in all VC functions to be competitive if the VC is to become the driver of economic development by its ability to create jobs and generate incomes. Table 3 provides an overview of the strengths and weaknesses of the mussel industry and Jiabong's potential to be the mussel capital of the Philippines after the 2008 mussel kill.

The opportunities emanate from the government programs for the expansion of the mussel industry, which boasts of wide areas for farming, a large potential market for fresh and processed mussel products, as well as the presence of well-organised mussel operators associations. On the other hand, there are constraints to contend with such as the need to provide sustained supply of inputs, to improve the shelf-life and quality of processed mussels, and to undertake more aggressive marketing. All of these serve as indicators for identifying investment opportunities for women.

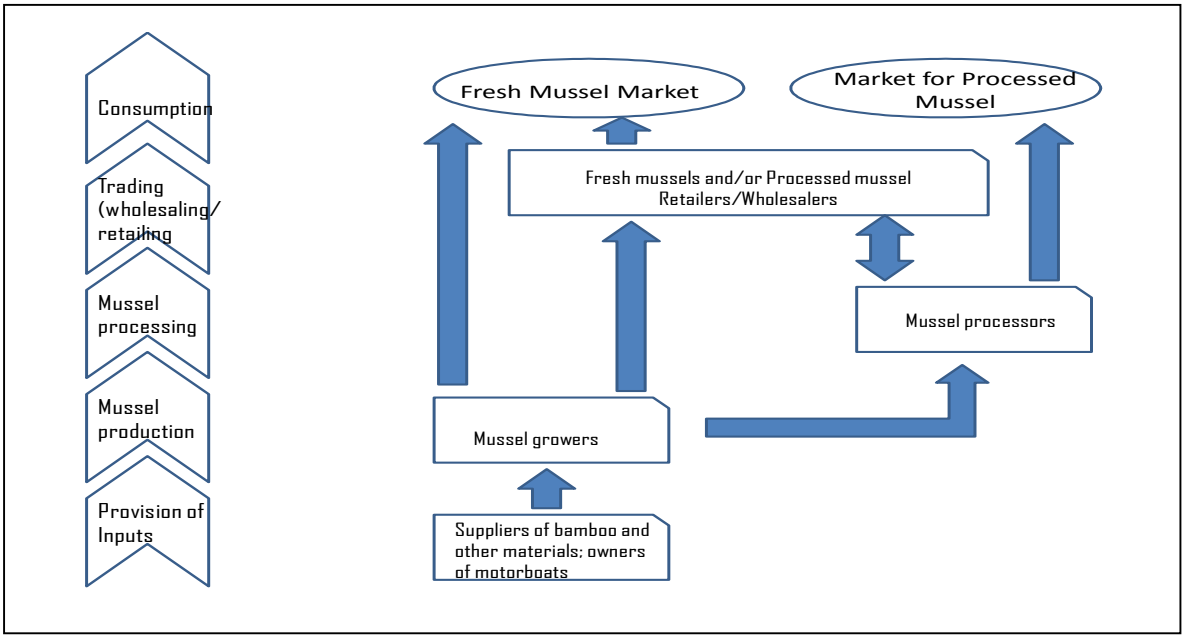

Fig. 2. The linkages between VC operators, Jiabong.

Table 3. Strengths and weaknesses of the Jiabong mussel industry, 2012.

Strengths	VC function	Constraints
• Mussel crackers is gaining market as a healthy snack item	Consumption	• Exotic food has small local market • Flavour can still be enhanced
• Large potential profit and rates of return • Employs women and girls • Possible business for transport providers	Trading	• Bottled mussels take a long time to sell • Wholesaler waits for orders • Prices are not standardised
• Longer shelf life • There are only 2 processors • Bottled mussel and other ways to process mussels has wide potential for business	Mussel processing	• Mussel crackers are easily crushed • Not regular/continuous • Poor packaging • Lack of better technology/equipment
• Less cost to growers who have own supply of bamboo • Potential for the expansion of area for mussel production. (In 2005, Jiabong still had 200 hectares) • Presence of mussel operators associations • Higher revenues for bamboo owners when mussel farming areas increase	Mussel production	• Sea water is not of best quality • Mussels fall before it is ready for harvest • Non-monetised self-owned resources • Mussels do not grow to big sizes • Rotten bamboo poles pollute seawater • Low/ irregular production • No fixed supplier of bamboos • No bamboo grower/farmer
	Provision of inputs	

Source: FGDs and KII conducted in December 2012 and January 2013.

The women in the mussel VC: Gendered work spaces

Being a male-dominated industry, the participation of women is minimal except in mussel processing and trading. Using a Gender Activity Profile, the productive-reproductive-community work mix shows that the work spaces for women include extension of household work for which they have been best prepared for by conventions, norms, and traditional socio-economic institutions (Table 4). These are traditionally "female jobs", and works that relate to maternal roles

(e.g. caring, nurturing) and roles that are parallel to household chores (e.g. cleaning, sorting, preparing paraphernalia/ingredients, cooking, and packing).

Many times, the women are not paid because of the perception that work is: light and part of the husband's main work; menial, thus, without cost/labour value; done when the woman is not doing any other work; regarded as family labour and only the husband gets paid for the work; and done simultaneously with housework and there is no "extra/separate" time spent by the woman to merit payment. Nevertheless, woman's work is an economic activity. She could have earned had she worked for others and sold her services in the labour market.

For the unpaid female labour, it is understood that when the husband who grows/processes/trades mussel products gets paid or earns profit, the cash income goes to the coffers of the family. The value of the woman's labour services gets intertwined with the cash income that accrues to the husband. Having no pay that is separate from her husband's pay, however, does not bother her as this is seemingly dictated by society.

Table 4. Work spaces for women in the mussel value chain.

VC function	Economic activity			
	Woman	**Paid?**	**Girl**	**Paid?**
Consumption	• Prepares the mussels as viand	No	• Helps mother	No
	• Buying, selling mussel products		• Peddling/selling of mussel products	
Trading (Wholesale/ Retail)	• Brokering; and recording sales	No (but profits from sales)		
	• Looks for transportation			
	• Takes charge of deliveries and orders			
Mussel Processing	• Prepares the sacks			
	• Buys ingredients			
	• Prepares the ingredients			
	• Helps husband process the mussels		• Collects mussels left in the farms after harvest	No (but profits from sales)
	• Packaging			
Mussel Production	• Delivers processed mussels		• Cleans and sorts	
	• Can own and manage mussel farms		• Helps in packing	
	• Looks for financial resources			
Provision of Inputs	• Helps prepare the fishing gears			
	• Helps in harvesting mussels			
	• Sells bamboo to growers	No		
	• Canvass lowest price of bamboo on behalf of the husband-farmer	No		

Source: FGDs and KII conducted in December 2012 and January 2013.

PGNs and SGNs of women in the mussel industry

Gender needs arise because of the terms of work and the gender discrimination in the work place. Staking, planting and harvesting mussels at sea are reserved for the males. While women self-claim that they can go to sea (as well as their husbands do), they contradict themselves by

living a life that encourages submission. The submission seems to be a happy and welcome state that is supposed to be a matter-of-fact and, therefore, not to be challenged. The practical gender needs (PGNs) often concern the inadequacies in living conditions and, thus, meeting these needs will improve the quality of the women's lives by involving women as beneficiaries and participants (Table 5). The PGNs arise from physical fatigue, and exposure to occupational and environmental hazards. The Strategic Gender Needs (SGNs), on the other hand, are needs which women identify because of their subordinate position in the industry. In the mussel value chain, it appears that the SGNs emanate from the lack of access and control of the woman on resources and assets needed in mussel production (Table 6).

Generally, she lacks self-confidence, and she accepts male dominance in the home and work spheres which is interpreted as her withdrawal in favour of submissiveness. She does not see this as a concern in relating with her husband or other men in the mussel VC. Her disadvantaged position is not identifiable by the woman herself. She is in a comfort zone that is dictated by society. She forgets to realise that she has skills/abilities that can be tapped as complements to her husband's work, not as a substitute for hired labour or as appendages to male labour.

Table 5. Women's practical gender needs (PGNs) in the mussel value chain.

VC Function	Gender issue	Practical gender needs (PGNs)	Addressing gender needs
Consumption	• Road accidents when peddling to travellers onboard buses passing by Jiabong	Health care; Better work conditions	• Provision of a bus stop where stalls for the women mussel peddlers will be located.
Trading	• Physical fatigue from whole day's work; backache • Tired hands from the pressure exerted in rolling the dough • Tired feet from standing • Eye strain • Exposure to heat while frying	Health care and protection Better work conditions	• Provision of women-friendly equipment : electric mixer/presser, boiler/fryer • Provision of ergonomic working tables/ chairs • Rest area
Mussel Processing			
Mussel Production	• Exposure to the sun and the rain • Carrying sacks of mussels when there is no help available • Wounding hands/feet • Wounding of hands from prolonged soaking in water		• Provision of trolleys/carts to carry heavy weights • Use of safe cleaning equipment and hand gloves • Construction of a shaded work station (with good drainage)
Provision of Inputs	• Work opportunities for women (e.g. bamboo production) but there is poor access to sources of capital	More sources of income	• Access to financing • Technology transfer on bamboo production

Source: FGDs and KII conducted in December 2012 and January 2013.

Responding to PGNs and SGNs of women mussel workers

Meeting the PGNs necessarily improves the quality of life of the women in the mussel industry. That is, she gets sick less often, her work becomes safer and less physically straining, exposure to environmental/occupational hazards is reduced, and she is less tired and fatigued at the end of the day. Traditional roles and relationships at home, however, may not be altered much. The woman may still have multiple burdens and her productive contribution to the industry may still be unrecognised and muted. Yet her personal physical well-being is improved. On the other hand, addressing the SGNs necessarily alters the woman's position in society and in the industry value chain. She herself becomes an agent of change. She is an enabler of changing women's roles and the transformation of relationships in the mussel value chain (Table 6).

Table 6. Women's strategic gender needs (SGNs) in the mussel value chain.

VC function	Gender issue	Strategic gender needs (SGNs)	Addressing gender needs
Consumption Trading Mussel Processing Mussel Production Provision of Inputs	When there is food shortage, husband gets to fill his plate first, then the children; what is left goes to the woman The husband rests at home while the woman tends the store and peddles in the street She is an assistant to the husband in production She is expected to be at home since husband is best person to go to sea She looks for creditor, or for cheapest inputs; these are unmanly activities	Unrecognised women's skills/abilities Unpaid women's work Roles not to be based on gender but on capacity Limited access to resources	• Consciousness raising e.g., Gender Sensitivity Training • Enhancing the woman's self-confidence through education • Formation of women's organisations • Strengthening the social capital across the VC; Women's participation in decision-making processes at home, work, and community • Entrepreneurial skills training and technology transfer

Source: FGDs and KII conducted in December 2012 and January 2013.

Promoting women entrepreneurship in the mussel VC

The widest window for addressing gender needs along the VC lies in providing opportunities for entrepreneurship and investments and in enhancing the work environment of existing micro and small mussel enterprises. In this manner, the woman's capacity and skills as an individual are recognised and optimally utilised and the value of her work effort is monetised. She can be expected to gain more confidence as she relates with the men in society, having gained access to resources and to structures/mechanisms and processes in the community. Empowering the woman means making her economically productive and earning for herself money equivalent to the value of her market time. From the provision of inputs up to the market, there are investment opportunities for her by being able to sell the value-added products at a higher price (Fig. 3). Work spaces for her could include: ownership of poles, managing mussel production, supervising mussel sorting, cleaning and packing; providing storage and similar post-harvest facilities for rent;

innovating flavours for mussel cracker production; to go for value-addition e.g. mussel fritters, mussel paste and mussel powder for seasoning; producing shell craft; and to function as brokers, retailers, or wholesalers using social networks/information technology.

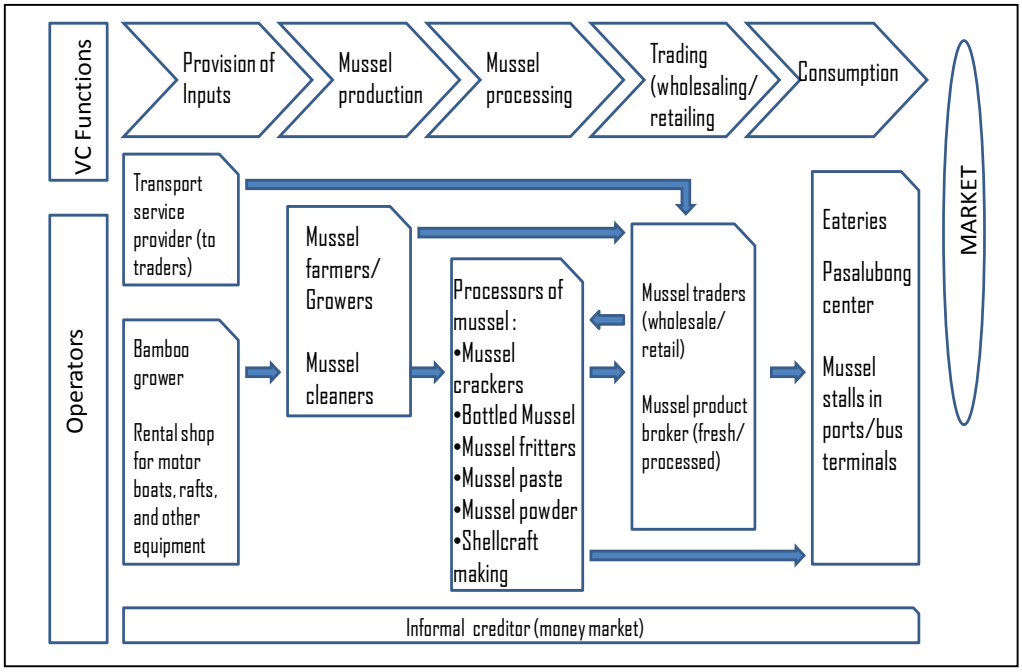

Fig. 3. Investment opportunities for the woman in the mussel VC.

Enabling strategies

The business prospects for the woman-entrepreneur are promising. However, these can only succeed if the enabling environment is created and is made accessible and friendly to the woman-entrepreneur. Value chain upgrading strategies are crucial and necessary: product development and quality strategy; human resource development; horizontal and vertical business linking; market research; policy creation and enforcement; and the physical site development (Fig. 4).

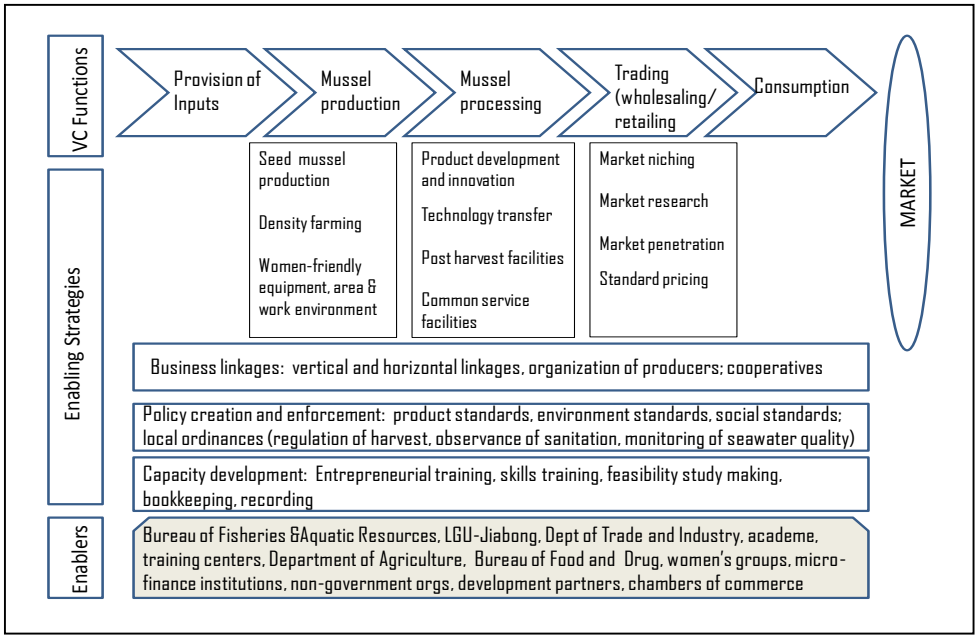

Fig. 4. Enabling strategies for the mussel value chain.

The initiatives have to be provided by both government institutions and the private sector. Business associations/organisations are likewise as important, particularly for creating business linkages. The establishment of a Mussel Enterprise Development Fund is worth considering.

Conclusion

Mussel farming is a sustainable small-scale, village level enterprise and a relatively green industry mainly dependent on local resources. In Jiabong, Samar, Philippines, it employs the unskilled women and men, the child labourers, and the out-of-school youth at various stages of the mussel VC. The product has a high market demand and promising export potential. It can also be an avenue for woman's economic empowerment in as much as she can engage in various entrepreneurial activities across all the VC functions.

Where women's participation is minimal, determining the total net value of women's work is difficult, which was a limitation of this study. This difficulty is compounded by the small sample size and the lack of studies based on large databases from where similar smaller studies can be referred. These limitations are recognised along with the non-availability of complete data of the past years.

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