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Market Participation of the Rural Poor: Choice or Necessity? A Case Study on Smallholder Beef Cattle Producers in Hanh Phuoc Commune, Nghia Hanh District, Quang Ngai Province, Vietnam

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Abstract

The objective of this study was to investigate the degree of, and the condition under which smallholder beef producers in Hanh Phuoc commune, Nghia Hanh district, Quang Ngai province, Vietnam engaged in the beef market. The hypothesis of this study was that the participation of rural farmers to market is influenced by household characteristics, institution and market context. The present study combined both qualitative and quantitative techniques in data collection and analysis to determine key factors of market participation. The empirical results found evidences that beef cattle production carried much implication and potentials for smallholder producers, especially the poor households to escape poverty and generate income. Despite that, the households did not participate in the beef market out of choice but essentially under compulsion. This resulted from their limited resources (access to arable land, cash income and experience in production and marketing) and the need for income to meet critical consumption demands. Moreover, the market context where the households did transactions with traders contained high risks and uncertainty due to unreliable provision of market pricing information and market collusion among traders in setting price. In such given context, the household incurred high costs, both invisible and visible, in transactions. As consequence of these factors, they were incorporated in the beef market under adverse conditions. The paper therefore proposes some policy innovations, including reform of credit market, accessibility to market information and collection action in production and marketing.

JEL Classifications: Q10**,** Q12, Q16

Keywords: market participation, rural smallholder, market information

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1. Introduction

For rural farmers, especially the poor, markets are seen to be the route for improving rural incomes and creating rural employment (Sida, 2004; IFAD, 2003). Through exchange of products and money, households can seek both to ensure their food requirements and to generate income for satisfying their basic consumption needs, social purposes and investments (IFAD, 2003). If it is true that markets are of critical and immediate importance to rural poor households, it follows that increased engagement in market is a prerequisite for enhancing agriculture-based economic growth and increasing rural incomes. Improved market participation, it is claimed, impacts positively farmers' supply responses, leading to increased commercialization of production. In turn, this generates higher household incomes and vice versa (Kan et al., 2006).

Market participation can be understood as a choice or decision of individual households as to whether to exchange or not their products in the market. It is, however, also widely seen that poverty, including income in-cash and poor living standards still persists in many parts of the world, especially in rural areas. One of the major causes for this has been widely reported to be that rural farmers find it difficult to engage in or are excluded from participating in markets (Narayanan & Gulati, 2002; Borbala & Peter, 2006); IFAD, 2003, Killick et at., 2000). Many authors argue that the poor in rural areas are not easy to or constrained from participating into the agricultural markets due to the complicated effects of demography, socio-economic characteristics, transaction costs and policy environment (Makhura, 2001; IFAD, 2003; Andrew & Priya, 2004; Lapar et al., 2003a; Lukangu, 2005; Tung & Achilles, 2007). As a result of this, they fail to gain the welfare benefits from market participation. Under the market liberalization and globalization, this exclusion has become more critical as the gap between rural and urban areas, between developed and developing countries, and between small-scale and large scale producers increases. So how do markets really work for the rural poor? How have the rural poor currently engaged in the agricultural markets? To what extent is the increased market participation the driver of improved welfare for small farmers?

Vietnam has over 10 million rural smallholder households with an average land-holding of 0.5 hectare and raising 1-2 livestock(s). They occupy 90 percent of total national poor households and are the major suppliers of agricultural products to domestic and international markets (MARD, 2004). During the last two decades, through a shift from central planning to a market-oriented economy, the government has encouraged many market-led strategies for agricultural products for poverty reduction and economic development with the ultimate aims at improving standard of living of its population and integrating Vietnam into the world economy. As a result of this, some agricultural products; such as rice, tea, coffee and pigs not only have met the domestic demand but also become main export commodities of Vietnam. This has significantly contributed to poverty reduction and welfare improvement for rural smallholder population (MARD, 2001).

As part of the livestock sector, cattle production plays an important role in the farming systems of millions of smallholder farmers in many rural areas throughout the country (NIAH, 2002). The statistical figures from MARD (2006) show that over 90 percent of the national cattle herd are in the hands of rural smallholder farmers and only 10 percent come from large-scale commercial operations. It provides not only draft power and manure to crop cultivation, but also

a very important source for cash income for such population (Ly & Chinh, 1996; Trach, 1998; Ly, 2000). Currently, the government has promoted beef cattle production as a major means for poverty reduction and economic growth by introduction of a number of policies and strategies on improved technology in terms of breeding, feeding and credit supply (MARD, 2006). As a result, the national beef cattle population has rapidly increased from 3.89 to 5.54 million heads during 2001-2005 with average growth rate at 9.18 percent. Beef cattle production toward commercialization has become one of the main sources of household income for smallholder farmers in many regions of Vietnam, especially in regions of appropriate agro-ecological conditions such as the Central and the South (MARD, 2006). A field survey in Quang Ngai province - the fifth developed province of beef cattle production of the country showed that the income from beef cattle production occupied around 64 percent and 40 percent of of the total livestock income and household income, respectively, of smallholder farmers in the rural low land areas (Ngoan & Huong, 2007).

Despite of such significance and increase, beef production has been seen to not able to catch up with the stated policy and market expectations (Knipps, 2004). The domestic producers, particularly the smallholder only meet about 20 percent of total domestic demand. In addition, beef now accounts for only 5 percent of the total national meat production regardless of their domination in national beef cattle production (Huong, 2005). In addition, the production systems are heavily characterized by small-scale and traditional technologies (MARD, 2006). Explaining for this, Lapar et al. (2006) argued that the smallholder producers have no incentives to produce high quality of product because the additional effort and cost involved would not be covered by the price they would receive in the market. Instability of production and prices are also among the major constraints hindering the smallholder to efficiently allocate resources for beef cattle production (Pica-Ciamarra, 2005).

Given the assumed significance of beef production to poverty reduction and economic growth, there appears to be very little attention or research paid to beef markets and the conditions in which the poor engage in the market in Vietnam. This study aimed at investigating the degree of, and the conditions under which the smallholder beef producers engaged in the beef market. This study hopefully contributes to building an understanding of how the beef market really functions in practice and how rural households, especially the poor engage in such markets.

The hypothesis of this study is that the engagement of the households, especially the poor into beef cattle markets is hampered by a set of factors, including household resources, institutional context and market context. Within the study, household resources are defined as a portfolio of assets, including natural capital (arable land), financial capital (both income in cash and income in kind) and human capital (knowledge, experience and labor force). The institutional context reflects the public policies in supporting market access for small farmers through delivering credit and providing market information. The market context comprises producers and different market channels as market players, and trade relationships between them. As hypothesized, due to economic significance of beef cattle production to household income, the households in the research site will maximize their household resources, particularly natural and financial to produce beef cattle for market to get the best returns. Meanwhile the existing public policies in provision of credit and market information can not function well enough to help individual households in improving both production and market participation. In addition, rural beef

markets are characterized by extreme asymmetry of powers between different traders and producers, in which the producers are in a disadvantaged position as compared with the traders. Rural producers, especially the poor often face difficulties in reaching markets and often face with little choice in selection of good traders.

2. Methods

The study was designed to determine what factors affect the participation of the smallholder beef cattle producers in the beef market. Related to this, it investigated the importance of beef cattle production to livelihoods of local farmers in different wealth groups, the investments that local farmers make for beef cattle production and the extent to which household characteristics influence participation in the local beef market. Further it explored the availability of price information in the local marketplace, how it was obtained by local farmers and the extent to which the availability of such information influenced the participation in the local beef market of the farmers. Finally it explored the factors that influenced local farmers in their selection of who to sell their beef to.

Details on research methods can be found in Phuong (2008). A full review of relevant secondary documentation was included. In the field, group interviews were held to collect information on beef cattle production, the reasons for sale, the way producers sell their products to the buyers, farmers' perspectives of opportunities and constraints in beef cattle production, and then their strategies for development of this product. The sampling methods and the content of household questionnaires were prepared based on the qualitative information gained from the group discussions. The list of local households obtained from the meetings with nine village heads was used as a sampling frame to stratify the members of the villages into different wealth status categories (poor and non-poor). One hundred households were sampled and interviewed throughout 9 villages of the commune, 79 of which were non-poor and 21 were poor. Interviews were also held with different market players (local producers, village middlemen, outsider retail traders and wholesalers) to get their viewpoints about the market, their level of involvement in the market and any problem or opportunity they had in the beef market. The local authorities (representative of extension centre, commune committee, head of local organizations, extension workers) were also interviewed to provide information about policies or local support for development of beef cattle production in the research site, and the problems in implementation of the policies in practice. For a delicate reason, the names of individual households and villages within this study were coded under the alphabet.

Quang Ngai province in the South Coastal Region of Vietnam was selected as the research site for this study. This is one of the poorest provinces of Vietnam with poor natural resources; meanwhile small agricultural production provides livelihoods for over 80 percent of its population in rural areas. Beef cattle production is an indispensable component to smallholder farming systems of thousands of its rural population. It contributes 21.6 percent to livestock GDP, much higher than that of the national average and is the backbone of the rural economy of this province. Despite that, the development of this segment has been heavily impeded by small-scale production, traditional technologies and other socio-economic factors (QN_DARD, 2006).

The fieldwork was done in Hanh Phuoc commune, Nghia Hanh district of this province, 20 km far from the central in the West. This commune has total physical area of 1.655 hectare, of which only 54 percent is arable land. This kind of arable land is used for diverse agricultural crops, ranging from rice (staple food for home consumption) to maize, sweet potatoes, cassava (mainly for livestock production and sale) and so on. The yield of staple food (rice) is 4.740 tones per year, equivalent to 424 kg per capita as indicated in the Table 1. Of nearly three thousand households, 76 percent depend largely on small agricultural production, including crop cultivation and beef cattle production of their living (Hanh Phuoc People's Committee, 2006).

Table 1. Land, land use and crop production in Hanh Phuoc commune, Nghia Hanh district, Quang Ngai province

	Kinds of land	Area (hectare)	Percentage of total area (%)	Yield (tones/year)	Estimation of by-products (tones DM)
1	Total	1655	100		
1.1.	Agricultural land	897	54,2		
	rice	996		4740	4977
	Maize	190		1027	950
	Sweet potatoes	6		42	
	Cassava	20		316	
	Sugarcane	20		1180	200
	Soybean	25		47	
	Peanut	48		98	240
	Peas	65		131	
	Green pea	54		113	
	Vegetable	75		641	
	Mulberry	22		411	
1.2	Forestry land	342	20.6		
1.3.	Special used land	193	11.6		
1.4	Resident land	59	3.6		
1.5	Unused land	165	10.0		

(Source: Ba et al., 2005)

This commune is seen to have favorable conditions for beef cattle production compared to others within the district due to its plenty of natural pasture as well as agricultural residues from various kinds of cultivated crops (ACIAR, 2003). In addition, the local population is knowledgeable in cattle production as compared to those in other regions (Ba et al., 2005).

There are two kinds of livestock-based enterprises in Hanh Phuoc commune. The first is the raising of cows for reproduction for sale and the second is the raising of beef cattle for sale. Since 2001, due to the supportive programs by the government and non-governmental organizations (OXFAM, ACIAR) as well as its economic profitability in comparison with other kinds of livestock (6.4 times higher profit than that of other kinds of cattle production (Ngoan & Huong, 2007); this commune has developed beef cattle production for sale as a main source of income in cash for many households. Also according to Ngoan & Huong (2007), beef cattle

production occupies 64 percent of total livestock income and 30 percent of total household income and involves over 60 percent of all households in production. This commune also gained the highest population growth rate of beef cattle as compared with other communes in the district, increasing from only 724 heads in 2002 to 3219 heads in 2006 (Quang Ngai Statistical Office, 2007). Despite this growth, beef cattle production of this commune is heavily characterized by very small-scale production (1-3 beef heads/household/year) and traditional technologies with "cut and carry" feeding systems, which limited the beef productivity and quality (Ba et al., 2005).

3. Evidence and interpretation

3.1. Characterization of the surveyed households

3.1.1. General socio-economic information

A total of 100 households surveyed within this study were smallholder farmers. They were involved in rather diverse activities for their living, including both agriculture and non-agriculture. Within agriculture, the households cultivated rice, a variety of cash crops (cassava, maize, ground nut, soy bean), raised some pigs, poultry and beef cattle for sale and did some off-farm activities during the harvest time. The household survey showed that such agricultural activities stood at over 70 percent of total household income; among which, income from producing and selling beef cattle made up the highest at 74.65 percent. Of the total household income, this activity occupied 35.00 percent as calculated from Table 2.

In fact, most of the agricultural activities took time to get return, at least 3 months for crops and even longer for livestock production. For this reason, non-agricultural income played its vital role in providing local households with cash for daily consumption needs, such as buying food and paying for clothes or medicine; irrespective of its share at only 26.26 percent amongst total household income. The data from the household survey revealed that 80 percent of total non-poor households and 66.7 percent of total poor households accessed non-agricultural income. A majority (70 percent) of the household heads in the non-poor group accessed non-agricultural incomes mainly from pension and wages, large trading and services; which were rather stable and high as compared to other income sources. In many cases, they had surplus for savings. Meanwhile, 90 percent of those in the poor group claimed to work as hired workers outside the commune or to do small trading; which brought them very irregular and fluctuating income. It was because these activities depended heavily on weather and labor demand. In addition, they often had no jobs in the rainy or flooding seasons. A person, working as hired labor, often got 40,000-60,000 VND daily (1 USD = 16,000 VND). They used this money to buy food, clothes, papers for their children and for other basic needs; and almost had no money left for savings. This implies that the poor households tended to depend on agricultural production for their living more than the non-poor did.

Regardless of how their living depended on agricultural production, arable land has been confirmed to be the most important resource for most of the surveyed households. It provided not only crop outputs for home consumption but also outputs and by-products for raising livestock, which ensured themswith enough food for home consumption and livestock production and cash income from sale of agricultural products.

Table 2. Description of the surveyed households in Hanh Phuoc by resources and wealth groups

Household structure	Unit	Total households (n=100)	std.D	Poor households (n= 21)	std.D	Non-poor households (n=79)	std.D
Income sources							
Beef cattle production	%	35.00	10.556	39.67	11.469	33.76	10.014
Crop cultivation	%	25.91	10.900	27.00	12.133	25.62	10.614
other livestock (ex. Beef)	%	12.54	9.959	10.00	8.373	13.22	10.282
non-agricultural activities	%	26.26	17.300	20.38	17.104	27.82	17.120
Land							
Land for rice cultivation	500 m2	4.21	2.172	3.66	2.022	4.35	2.200
Land for cash crop cultivation	500 m2	1.61	1.834	1.28	1.521	1.69	1.908
Land for growing grass	500 m2	0.91	.710	0.85	.758	0.93	.701
Human resource							
Household size	Person	4.65	1.431	4.86	1.982	4.59	1.256
Main labors	Person	2.33	.922	1.81	.750	2.47	.918
Dependants	Person	2.32	1.503	3.04	1.829	2.12	1.352

500 m^2 = 1 "sao"

(Source: Household Survey, Hanh Phuoc, 2007)

As indicated from the Table 2, the mean size of arable land per household of the total 100 surveyed households was 5.82 "sao" for rice and cash crop cultivation, rather low as compared to that of the farmers in other regions (Thu Phuong, 2006). Over 70 percent of the total arable land was used for cultivating rice and the rest for cash crop cultivation. The data also showed that the poor accessed smaller size of arable land than the non-poor despite of their larger household size. On average, the annual yield of rice was 300 kg per "sao" and per capita rice output was 271.61 kg per annum, which was reported to be used only for home consumption. Even nearly 40 percent of the non-poor and 90 percent of the poor households fell short of staple food, especially in drought or flooding. The cash income from crop production, therefore, was mainly from the sale of cash crops, such as maize or cassava. In fact, only one third of total outputs of cash crops were sold for cash, the rest was used for livestock production. For the reason of producing enough food for home consumption, no households were found to use their arable land for growing grass for raising beef, instead using up a small part of their resident land (0.91 'sao"). This figure is not noticeably different between two wealth groups.

3.1.2. Access to credit

A majority (90 percent) of the surveyed households reported to be in need of credit for buying calves for production. A male calf at around 12-18 moths old cost on average from 2 to 4 million VND; and it took 6 to 12 months to get cash returns. Some households claimed to get money from their relatives or friends for beef cattle production at no interest rate but they were few and dispersed cases. Therefore, this source of loans will be not discussed further. Only 36 percent claimed to access institutional credit from three main sources: Vietnam Bank for Agriculture and Rural Development (VBARD), the Quang Ngai Program on Rural Development (RUDEP), and Public Credit Unions (PCUs), standing at 38 percent of the poor and 35 percent of the non-

poor. This means that there existed a large number of beef cattle producers, both poor and non-poor not accessing institutional credit for beef cattle production regardless of their credit demand.

Even for those who accessed credit, the mean size of the loans they accessed through the three sources of credit was rather small (Table 3), standing at 5.50 million VND for the poor and 4.97 million VND for the non-poor, as compared to farmers in other regions (Thu Phuong, 2006). Among them, the poor tended to access more loans compared to the non-poor but at unclear difference.

Table 3. Number of households accessing credit and means of loans of the surveyed households in Hanh Phuoc commune

Sources of credit	Interest rate (%/year)	The accessed poor		The accessed non-poor	
		Mean of loans (in million VND)	No of households (person)	Mean of loans (in million VND)	No of households (person)
VBARD	1.10	6,66	3	5,08	13
RUDEP program	1.00	3,75	4	4,50	6
PCUs	0.65	9,00	1	5,14	9
Total		5,50	8	4,97	28

(Source: Household Survey, Sept, 2007)

Both group discussions and in-depth interviews were done to investigate the reasons why local farmers did not apply for or get larger amount of loans and why many farmers with credit demand did not access credit? It was concluded that both the requirement and regulations of the formal credit sources and limited resources of the local farmers were interrelated causes which impeded local farmers from accessing credit or accessing with small amount of loans. For example, in order to be provided with credit from the bank, households were required to submit their application form for credit to the bank, in which they had to clarify the purpose of borrowing money, how much money they needed and the collateral they had. Then, the bank staff would pay a visit to that household to screen their dept repayment capacity which was measured by household socio-economic conditions before deciding whether to lend that household or not. Very frequently, local farmers, especially the poor were refused to borrow money due to their lack of repayment capacity. A high 8 among 10 people in the poor group participating in the group discussion narrated to have applied for credit to the VBARD. However, seven of them were considered to be not credit-worthy enough because of either lacking physical assets as collateral or having too many dependants. Those who were in need of credit but did not apply for credit expressed their hesitation to apply to the VBARD because they had no "Land Use Certificates (LUCs)" as collateral. This implies that what the government said in the Decision No 67/1999/DA-TTg with the slogan *"Loaning local rural households a maximum amount of 10 million VND without collateral"* seems still a "document" slogan, at least for the cases of local farmers in this site. Meanwhile, the operation of the PCUs was rather small-scale and depended on the support from the outside banks and other sources. Therefore, their reach towards the local households was rather limited.

3.1.3. Access to information and services in relation to beef cattle production

Access to information and services was also investigated within this study in order to understand how far the farmers received support from local authorities or from non-governmental organizations in producing and marketing beef cattle.

The group discussions revealed that the farmers did access information for beef cattle production and market through mainly mutual daily personal contacts. In casual contacts local farmers talked and shared their own experience and information on beef cattle. This finding was consistent with the observation of the researcher that there was no organization or no one responsible for providing related information within this research site. The local extension services related to market for beef cattle almost did not function within this commune. This was evident from the fact that over 95 percent of the poor households and 86 percent of the non-poor households did not receive the support from local authorities in terms of extension services for beef cattle marketing. The rest of farmers who confirmed access to market information were those who were involved in the "Interest group on beef production" supported by the provincial Rural Development Program (RUDEP).

3.2. Contribution of beef cattle production to household economy

Raising beef cattle for sale has existed for a long time within this community. However, commercialization of this activity became popular only since 2001 when the local people received the support from the provincial authorities as well as non-governmental organizations in breeding, feeding and credit.

The household data revealed that beef cattle production stood at nearly 40 percent and 37 percent of total household income for the poor and the non-poor, respectively as displayed in Table 2. In the group discussions, the farmers, especially the poor confirmed the crucial importance of beef cattle production for sale to their household welfare. For these households, paying schooling fees for children, providing security against the risk of crop failures or against uncertainty in the crop market, paying for high value things (including building a house, buying television or motor-bike), and paying for medical costs were the main reflective indicators of the importance. Meanwhile, for the non-poor, the income from this activity was just a way to increase their extra income and to make use of surplus labor, agricultural outputs and by-products.

Interviews were also conducted with three individual households in order to investigate deeply the role of beef cattle production on their livelihoods.

Mr. and Mrs. Y, a young couple with three young children at schooling age, reported that the income from selling beef cattle helped their family to escape the difficult situations with bank debt and schooling fees for their children. The irregular income from Mr Y's daily working outside as hired labor was just enough to cover daily expenditure.

Mr and Mrs. X, a household in the non-poor group narrated *"Our family comprises 4 members, 2 among us have our own regular work. The income from this work is enough to support the daily expenditure and to send our younger daughter to school. Since 1998, we raised beef*

cattle for sale as a source of extra income. We can get income at 5-10 million VND per year from selling beef. However, we now intend to stop producing beef cattle for sale and to invest in trading for better and quicker return".

For Mr. and Mrs. XX, a single and landless poor couple, beef cattle production has become a main income source for ensuring their long term survival. They reported "*We have no children and no arable land. In the past, we survived with the daily petty income from the small traders at the village market or working as hired labor for neighbors. In 2001, the ACIAR supported us with a heifer at 18 month-age for production. Thanks to that beef, we had had small surplus money for savings and bought this old television. Now, we are raising two cattle and feel more secure with our livings".*

Apparently, beef cattle production has, less or more, played a noticeable role in the livelihoods of local households within different socio-economic positions. However, it is rather surprising to notice that nearly 81 percent of the surveyed households expressed their hesitation to maximize the use of all their resources (labor, money) for beef cattle production for sale. Among those, mainly the non-poor who could have good and sustainable income from non-agricultural activities expressed their preference to investing more in non-agricultural activities rather than intensively investing in beef cattle production. The main reasons included the unpredictable change in market prices1 (70%), limited access to credit (80%), and uncertainty in selling beef cattle (30%).

3.3. Scale of beef cattle production

The scale of production of beef cattle within this context was measured by three indicators, including the number of animals produced by individual households within a certain time, the labor arrangement and feeding strategies for raising beef cattle.

Table 4. Percentage of beef cattle produced at the survey time by number and wealth status

Items	**Unit**	**Poor households (n=21)**				**non-poor households (n=79)**				
No of beef produced	head	**Mean = 2.09**				**mean = 2.19**				
		1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**5**
No of households	percentage	14.30	66.70	14.20	4.80	21.50	46.80	24.10	6.30	1.30
Household size	person	4.67	4.71	5.67	5.00	4.53	4.43	4.95	4.20	7.00
Main labor	person	2.00	1.57	2.00	4.00	2.47	2.43	2.58	2.40	2.00
Dependants	person	2.66	3.14	3.66	1.00	2.05	2.00	2.36	1.80	5.00
Production experience	year	5.67	5.21	8.33	10.00	5.88	8.35	8.79	8.40	6.00
crop land	500 m^2	4.67	2.99	6.00	3.00	4.67	2.99	6.00	3.00	3.00
cash crop land	500 m^2	1.00	1.03	2.66	1.50	3.31	4.54	4.89	4.60	3.50
Grass-growing land	500 m^2	1.00	0.49	2.33	1.00	0.94	1.70	2.23	1.50	4.50

(Source: Household Survey, Hanh Phuoc, 2007)

[1] For some reasons, the authors could not get exact information for price fluctuation, therefore, the gain or loss of smallholder farmers when participating into beef market within this study was not measured with quantitative indicators or figures, just by specific examples or perception of the producers.

As presented in the Table 4, the mean number of beef cattle produced per household was 2.17 heads at the surveyed time, ranging from 1 to 5 heads. 93 percent of the households produced 1-3 heads, and only 7 percent produced 4-5 heads. There was an unclear difference between the poor and the non-poor although the latter tended to produce more beef heads within a time than the former. The data from Table 4 also shows that those, especially the poor, who depended largely on agricultural production for their living and had been involved in raising cattle for a long time tended to produce more beef cattle for sale than others. Moreover, those who had more than two main labors also tended to invest in raising beef cattle for sale. In other words, the production experience, access to arable land and grass land tended to be proportional with the amount of beef cattle produced per household.

The use of labor force for producing beef cattle was investigated in the household survey in order to address how local households arranged their labor force for such important income generating activity. The calculation from the survey data displayed the mean of main labor force at 2.47 persons for the non-poor and at only 1.81 persons for the poor (Table 2). With such labor force, the interviewed poor households expressed their difficulty in effectively arranging labors for various activities to make their livings.

Table 5. Distribution of family labor for keeping beef cattle of different wealth groups in Hanh Phuoc commune

Workforce	The poor households		The non-poor households	
	No of households	% within wealth group	No of households	% within wealth group
Women	10	47.6	37	46.8
Men	6	28.6	10	12.7
Children	1	4.8	1	1.3
Women & men	4	19.0	32	39.2
Total	**21**	**100.0**	**79**	**100.0**

(Source: Household Survey, 2007)

Lack of labor or allocation of labor to non-agricultural activities limited the ability of local farmers to invest in producing beef cattle. Only with one or two main labors, the farmers, especially the poor, had to have trade-offs between earning livings with non-agricultural activities for daily income and investing in beef cattle production for sale, which took them at least three months to get returns.

A high 80 percent of the surveyed households reported to use the men - the head of household to work outside agriculture, meanwhile the women - the spouse of the household heads would be responsible for agricultural production as well as housework. As indicated in Table 4, nearly 50 percent of both poor and non-poor used their female labor force to feed animals daily. In fact, women within such mixed farming systems do various activities at the same time, such as working on the field, raising pigs, bringing up children, doing household works. This made their time in beef cattle production limited. Meanwhile, in the group discussions, it was found that the men, not the women were those who attended the trainings in relation to beef cattle production held by the extension department at different levels. Therefore, the women did not get much knowledge or skills on raising beef cattle. For those who were old-aged, disabled or

had less labor, the matter of labor allocation for raising beef cattle was even more of a critical constraint.

In terms of feeding strategies for beef cattle, nearly 80 percent of the households claimed to keep the traditional feeding strategies for raising beef cattle for sale as same as for raising reproductive cows in the past. This means that they depended heavily on the availability of home labor, of agricultural by-products and of natural grass for feeding beef cattle. They fed their animals whenever they had free time without any planned feeding schedule. For this kind of production, the production cycle of beef cattle lasted 8 to 12 months. Meanwhile, it took from 4 to 8 months to raise a beef if a household used regular feed strategies for their animals.

3.4. Degree and determinants of market participation

The degree of market participation within this context is defined as both the quantity and quality of beef cattle sold in the market. The quantity is reflected with the number and frequency of beef cattle sold within 12 months while the quality refers to the body weight of beef cattle at the selling time. The determinants of market participation are considered under a range of factors, both within endogenous and exogenous, which may influence the behavior of households as well as the return from beef sale in engagement into beef market.

Table 6. Beef cattle sales in last 12 months by households and volume

Items	**Unit**	**Poor households (n=21)**						**Non-poor households (n=79)**			
No of beef sold	head	**Mean = 2.43**						**Mean = 2.23**			
		1	**2**	**3**	**4**	**5**	**6**	**1**	**2**	**3**	**4**
No of households	percentage	28.00	33.00	19.00	10.00	5.00	5.00	19.00	53.00	14.00	14.00
Household size	person	5.83	3.86	4.00	4.50	7.00	8.00	4.60	4.43	4.91	4.91
Main labor	person	1.67	1.71	1.50	3.00	2.00	2.00	2.20	2.60	2.55	2.27
Dependants	person	4.16	2.15	2.50	1.50	5.00	6.00	2.40	1.83	2.36	2.63
Production experience	year	3.50	6.14	6.25	9.00	8.00	10.00	6.47	7.93	9.00	7.36
per capita arable land	500 m^2	0.75	0.88	1.31	1.27	1.28	1.50	1.24	1.35	1.38	1.54
Grass-growing land	500 m^2	0.25	0.87	0.95	2.00	0.50	2.00	0.64	0.92	0.91	1.36
Beef income	percentage	34.00	34.00	51.00	43.00	50.00	50.00	25.00	34.00	37.00	39.00
Crop income	percentage	22.00	29.00	26.00	30.00	20.00	40.00	27.00	24.00	30.00	24.00
Livestock income (ex. Beef)	percentage	10.00	10.00	14.00	17.00	0.00	10.00	10.00	14.00	14.00	15.00
non-farm income	percentage	34.00	27.00	9.00	10.00	30.00	0.00	38.00	28.00	19.00	22.00

(Source: Household Survey, Hanh Phuoc, 2007)

Table 6 summarizes the number of beef cattle sold by different households in a year. As indicated, 85 percent of the surveyed households (86 percent of the non-poor and 80 percent of the poor) had 1-3 beef heads sold within 12 months. It is rather surprising that no households in the non-poor group were found to sell more than 4 beef heads per year as compared to 10 percent of the poor households did. Comparing the quantity of production (Table 4) and of sale (Table 5) between the two wealth groups, revealed that the poor might have a higher turnover of sales. The calculation from the survey data supported this statement as over 50 percent of the poor engaged in the market of beef cattle at least two times per year, compared to nearly 30 percent of the non-poor. The question is whether this higher turnover of sale brought out good return to households?

Over 50 percent of the non-poor households sold their live beef cattle at 100-140 kg of live weight per animal, while 90 percent of the poor households sold their animals at 85-100 kg of live weight. Different prices were set for different live weight of animals at different time. For example, at the survey time, the market price for a kg of live animal was around 47,000 - 48,000 VND/head over 100 kg (1 USD = 16,000 VND). For the beef under 100 kg, the price would be, of course, lower than the market price, but less or more depending on the negotiation between the traders and sellers (based on the results from the interviews with three individual households and one trader). In fact, it was very difficult to measure exactly the difference between the market price and selling price of the under-weight beef cattle or to calculate the production cost the producers incurred; therefore, how much the households gained or lost when selling beef cattle under weight could be not estimated within this study.

It is clear that despite a higher turnover of sales, the poor households did not seem to get as good returns from selling beef cattle as the non-poor ones2. A range of factors should be taken into consideration in order to understand the underlying influences on the degree of market participation of the poor, from which the conditions under which the poor engaged in the beef markets would be investigated. As argued in this study, the degree of market participation of beef cattle producers is determined by their household resources and the institutional and market context which are available locally.

Firstly, it should be noted that the behavior of households in producing and engaging in the market is, to a considerable extent, determined by their socio-economic position. Looking at the data in Table 6, the amount of beef cattle sold in the market tended to be proportional to household size, production experience, size of arable land and contribution of the beef cattle income to household income, especially for the poor. Most importantly to emphasize here is that the farmers in the research site depended largely on agricultural production, particularly raising beef cattle for sale for their living (Table 3). Despite this, with existing arable land per capita, the households could not manage to escape the shortage of staple food around the year. Nearly 50 percent of total households and 90 percent of the poor households reported lack of food stuff (mainly rice) for daily consumption, especially in the time of drought or flooding. Meanwhile, it took rather long time, from 6 to 10 months on average to get return from production of beef cattle. In solving this problem, the households must divert their income sources and allocate their labor force towards non-agricultural activities for cash income to smooth their home expenditure. The data revealed that 80 percent of the surveyed non-poor and only 66.7 percent of the surveyed poor accessed non-agricultural activities for living. In

fact, the non-poor seemed to have better alternatives to escape from this situation than did the poor. The labor force in the former group often involved administrative works or trading – jobs which could bring them regular and stable income, resulting in buffering themselves out of food insecurity and poverty. Meanwhile the poor often worked as hired labor or did very small

[2] For the poor, it might be a better decision to sell while they are small, even if the unit price is not good, because the production cost per kg is too high for them to bear (including labour cost). In Vietnam, rural farmers often use agricultural by-products, natural grass and unused labour force for raising beef cattle, resulting in difficulty in calculating production cost per kg. Therefore, quantitative gain or loss from such kind of selling is not easy to measure.

trading at the market; which brought them with irregular and low-paid income. Cash income from this kind of activity could not ensure basic needs for their families. In addition, their access to credit was limited as presented and discussed. These factors influenced significantly the participation of the beef cattle producers in the research site in the beef market. Due to lack of cash income, the households often had to sell their animals in very critical times to smooth their daily expenditure. This case is more critical for the poor households and those with many dependants.

Table 7. Reasons for selling beef cattle of different wealth groups in Hanh Phuoc commune

Reasons to sell beef cattle	Non-poor households		Poor households	
	No	% as total	No	% as total
Good body weight (over 100 kg)	40	50.6	1	4.8
Paying for schooling fees for children	13	16.5	9	42.9
Repaying bank loans	6	7.6	2	9.5
Treating diseases of family members	5	6.3	6	28.6
Other reasons	15	19.0	3	14.2
Total	**79**	**100.0**	**21**	**100.0**

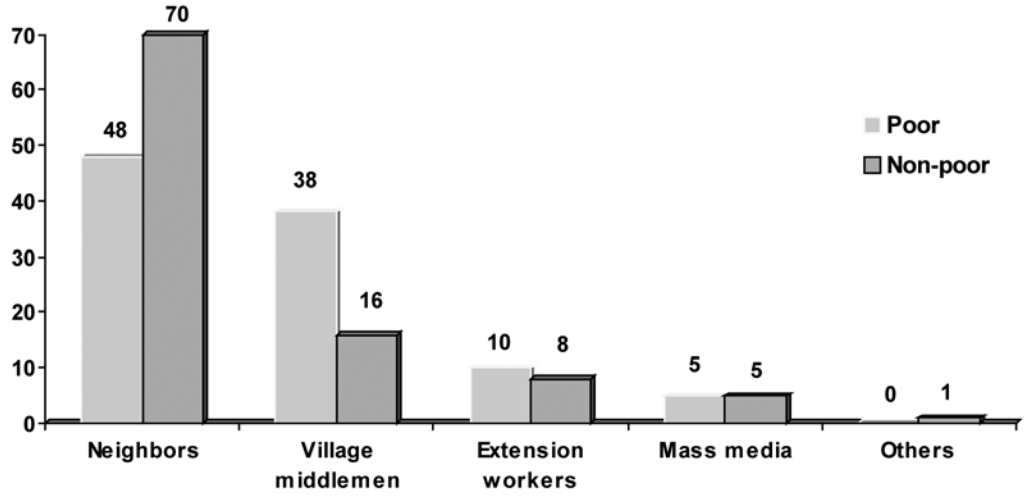
(Source: Household Survey, Hanh Phuoc, 2007)

As indicated from Table 5 above, those who had many dependants tended to sell larger amounts of beef cattle per year. Whenever they needed money they had to sell their animals regardless of the quality of beef cattle. Table 7 summarizes the various reasons given for sale of the latest beef cattle within individual households at the surveyed time. For the non-poor, the need to meet daily household expenditure had less influence on their decision of sale as compared to the poor. Only 43.1 percent of the non-poor were found to decide to sell their animals for either paying for schooling fees for their children (16.5 percent), for repaying bank loans (7.6 percent) and treating diseases of family members (6.3 percent). Meanwhile, these reasons account for totally 81.0 percent, standing at 42.9 percent, 9.5 percent and 28.6 percent for the poor, respectively. As analyzed above, the sale of beef cattle in less good body weight influenced the return for the households negatively.

In conclusion, the quantity and turnover of beef cattle sale as indicated from Table 5 can give us an illusion that the households, especially the poor have good performance in the market. However, through investigating the factors, it was revealed that the poor have no choice in deciding in which time and at what quality to sell their animals in order to get good return but it was the need for living smoothing that forced them to do that.

Secondly, access to market information before the decision to sell played a key role in behavior of the individual households in engaging in the beef market. As mentioned previously, the access of both the poor and the non-poor to market information related to beef cattle is locally characterized.

Figure 1. Percentage of households access market pricing information by sources and wealth groups in Hanh Phuoc commune



(Source: Household Survey, Hanh Phuoc, 2007)

Most of the surveyed households (86 percent) obtained price information through their neighbors and even traders within their community. However, there is unclear difference between the poor and the non-poor as indicated from Figure 1. Meanwhile, the role of extension workers and mass media appears to have been limited. In addition, the information these actors provided to the farmers was inappropriate. For example, the national marketing department has currently disseminated the price information on television and radio; however, farmers complained that this kind of information did not meet their needs. In fact, the information only contained the price for best fresh beef meat after slaughter, while local farmers sold the whole live animals to traders. That was the reason why they could not, or found it difficult to, use that information as a basis to bargain with traders. In addition, the information the extension workers provided to local farmers was based mainly on what they collected from different sources both inside and outside the commune; but not from any official sources. Therefore, it was helpless for the local farmers to make decisions and bargain with traders. Mr. Z - the only commune extension worker said that he was not assigned to provide market information to local beef producers, but to be just responsible for veterinary work (artificial insemination, vaccination) and for training in production. The information he brought to local farmers was based mainly on the personal relations. The author did interviews with local authorities at commune, district and provincial levels regarding the implementation of the government's strategies on supporting livestock producers in extension services and marketing information as stated in the government Decision/167/QD-TTg dated 26/10/2001 and Circular 56/2005/ND-CP dated 26/04/2005. Limited finance and lack of skilled personnel were found to be among the main reasons which made it difficult for the local authorities to implement effectively and fully the mentioned government strategies. In other words, there is still a big gap between what the government said or oriented in supporting rural farmers in market development and what happens in practice.

Table 8. Means Time (days) searching for price information and number of potential buyers contacted by wealth groups in Hanh Phuoc commune

Items	Unit	Total households (n=100)		Poor households (n=21)		Non-poor households (n=79)	
		Mean	Std. D	Mean	Std. D	Mean	Std. D
Number of days searching for market pricing information	Person	6.92	2.88	6.81	3.296	6.95	2.787
Number of potential buyers	Person	3.37	0.83	3.14	0.964	3.43	.779

(Source: Household Survey, Hanh Phuoc, 2007)

The current availability of market price information was among major influences on the behavior of households to engage in the beef market. Because of doubt on the available information, local households searched and confirmed the information from various sources. As shown in Table 8, a household in Hanh Phuoc commune spent nearly seven days on average to search market pricing information and contacted nearly four bargainers before making the final decision of sale. Although there is no significant difference between households in the two wealth groups in the time spent on searching, the poor tended to spend less time searching for information. In fact, as reported above, many poor households sold their animals in emergency, therefore they seemed have no time for searching information and find the best trader. Apparently, this action would take time and resources of human and finance, resulting in a longer time for decision and incurring related costs. Moreover, they could lose opportunities to other income generating activities. When asked to compare the price that the first buyer and that the final buyer gave, the majority of the farmers in the group discussion said no noticeable difference. In many cases, they sold their animals to a final buyer at a lower price rather than that of the first one. It is interesting to see that most of the 100 surveyed households confirmed that they continued to keep searching for market information and potential buyers despite of its costs. This action made them feel confident enough to decide to sell their animals.

Thirdly, the outcome of market participation of the smallholder beef cattle producers in the research site is considerably influenced by the availability of market channels. In Hanh Phuoc commune, there were a total of seven traders who could be categorized into three main market channels; including three village middlemen, two outsider retail traders, and one outside whole-seller. The data from Table 8 describes the characteristics of each market channel, resulting from the group discussion with local households.

Table 9. Characteristics of different market channels in Hanh Phuoc commune

Market channels	Characteristics of market channels
3 village middlemen	- Always available - Bargaining with not reasonable price[1] - Buying all kinds of animals, even in poor body condition or not old enough
2 outside retail traders	- Bargaining with middle range price - Available, but not frequent (a time/week) - buying animals with good body conditions and old enough for slaughter
1 outside wholesaler	- Bargaining with most reasonable price - Not available (one time/month or /two months) - Buying with large number of animals (around 15 heads/time) and beef in good body conditions

(Source: Group Discussion, Hanh Phuoc, 2007)

[1] local household identified the term "reasonable price" as highest price they estimated their animals based on the price collected from difference sources. For example, at the surveyed time, the average price was said here is 48.000 VND per kg per live beef. Meanwhile, the outside whole sellers could bargain with 49-50.000 VND per kg, but the village middlemen bargained with 46-47.000 VND/ kg/live animal)

Village middlemen could buy animals of any kinds, low or high weight of beef, large or small number of animals, young or old animals. Moreover, they were always available in the village. Meanwhile outside retail traders required live animals with weight over 100 kg or old enough for slaughter. The outside wholesalers only bought live animals with weight over 100 kg and in large quantity (more than 15 heads/time). In addition, both of the latter channels were not available whenever households needed to sell their animals. For these reasons, it was claimed that village middlemen were the easiest channel to access.

The household survey supported the findings of the group discussion. Among the three main market channels, village middlemen took the largest share of total beef cattle sold in the local market at 57 percent, outside retail traders handled at 32 percent and outside wholesalers at only 11 percent. However, it is rather unexpected that there was unclear difference between poor and non-poor (Figure 2). Moreover, in the group discussion, a majority of local farmers also claimed about low price of selling animals to village middlemen in comparison with that of other channels, especially the wholesalers by at least 3-5 percent per kg of a live animal. Although the data from the household survey did not find evidence to support this statement, the question still arises as to why local farmers decided to sell their animals to local middlemen while they perceived better prices from other traders? Thus underlying reasons for this fact should be clearly investigated. Summarized from the collected data, three explanations were revealed for the behavior of households towards market channels.

Figure 2. Percentage of beef cattle sold by trade type

(Source: Household Survey, Hanh Phuoc, 2007)

The first is that there was a gap between the practical capacity of the local farmers and the requirement and characteristics of specific market channels. As mentioned before, individual households, both poor and non-poor, in this site produced one to three animals at a time. In addition, they were quite used to individual production and marketing beef cattle. Meanwhile the outside traders, especially the wholesalers required large numbers (over 5-15 heads/time). As a result of that, farmers did not meet the traders' requirement and were forced to sell their animals to village middlemen. This channel collected and accumulated a number of beef cattle and supplied them to the outside traders with large amount for better profit. The whole-sellers always contacted the village middlemen to buy a large quantity of beef and would buy some animals from the households at their availability.

The second, the reasons for local farmers deciding to sell beef cattle as mentioned previously would influence heavily their selection of market channels. Particularly, the poor were those who evidently decided to sell their animals in adverse time and in less good quality than the non-poor. This characteristic could be seen to conflict with the availability and quality requirement of the outside traders. That explained the reason why the village middlemen would be always their best and only choice.

The third, interviews with the village middlemen and the outside retail traders in the research site revealed the existence of collusion between the traders in the research site. It means that three mentioned market channels co-operated in transmitting market price information publicly and took advantage of their monopoly in buying beef cattle to buy beef cattle at prices much lower than that of the market. They often contacted each other and discussed the market price together before they gave it out to local farmers. Mr X - a village middleman expressed openly to the author that *"In fact, local producers do not know much about market price of beef cattle, and rely on the information from their nearby neighbors and traders...Why should we (village middlemen, outside traders) bypass good opportunities to take benefit!... Very simply, when*

outside traders come to the village to buy cattle, they at first come and ask me the current market price in the commune... If they want to buy, they can bargain slightly higher price as what I gave to local farmers before. This is a good way and helps us to control the market price in the region...". Therefore, whether local farmers accessed market pricing information from any sources, they were at high risk to fall into a cobweb controlled by village middlemen and other actors in the market. Moreover, these traders were the only market channels available in the research site. This statement is strongly supported with the following evidence: during the time of "foot and mouth" diseases last year, the local households knew well that the price of fresh beef meat at the market was static, even increased. This information was confirmed by the head of the provincial department of husbandry. However, in reality the households had to sell their live beef at a very low price, at 40-42.000 VND/kg compared to 47-50.000 VND/kg as usual. Regardless of their awareness, the households had no choice but had to sell their animals with such low price.

On the other hand, access to the current market information can put the households into risky situations of loss from selling beef cattle with adverse selling price regardless their spending much time for searching information. As mentioned before, access to market information of the households, both poor and non-poor, was very local. Therefore, they had little chance to obtain the right market price, resulting in no reliable basis for decision of sale. For this reason, their position in the beef market was very adverse as compared with other players, particularly the traders. It was not easy to investigate quantitatively the risk in selling beef cattle of the households due to limited access to market information. The data from the group discussion and household survey revealed that the traders were the first and last who set the sale price for beef cattle, even though there was long negotiation between the buyers (traders) and sellers (producers). This was reinforced by the fact that the households always did their production and marketing individually.

In conclusion, the existing market channels, less or more, created the monopoly in coordinating and purchasing beef cattle in the research site. This created less competition in the beef market and put the households in an adverse position in the beef market, resulting in undesired return from sales.

4. Conclusions

Investigating the claim that smallholder farmers in rural areas can escape poverty and improve welfare through participation in output markets, this study aimed to build understanding of the degree and conditions under which the smallholder beef producers engaged in the beef market through investigating what factors drove market participation.

A range of factors were found to influence the way in which local households engaged in the local beef market.

Firstly, only beef cattle production appeared to be a way for the households, especially the poor to get higher and longer-term income although they were involved in various activities, including crop cultivation, livestock production as well as non-agricultural works. But it is

clear that poverty (both in cash and in kind) compelled the poor households to allocate their resources, particularly labor force towards non-agricultural works for income to smooth their daily expenditure instead investing intensively in beef cattle production. In addition, it is also clear that poverty compelled poor households to engage in the beef market, and there was little choice in their actions. Accordingly, they had a high turnover in beef cattle production and sold when they had to raise money. A high 80 percent of the poor households had to sell their beef to meet daily and urgent expenditure rather than selling in the right time of production cycle. In contrast, the non-poor households had better alternatives to beef cattle production due to their comparative advantages in terms of resources; including labor and finance. Therefore they had more choices as to when to sell their animals to get good returns.

Secondly, the existing credit market did not function in an expected way in order to support local farmers with credit. For this reason, local high credit demand for beef cattle production could not be satisfied or even be satisfied but at small amount, leading to hampered beef production and market participation of the local households. In addition, because of unreliable information on prices, farmers incurred high costs in searching for information and potential buyers for their beef and found it difficult to decide when to sell their animals as well as to whom to sell to get the desired profit.

Thirdly, the collusion among traders created an extreme asymmetry of power between the existing traders and the producers; resulting in putting the producers into an adverse position in bargaining and marketing their animals. Moreover, requirement of traders as well as existing production and sale practice reinforced further the dependency of local producers on the village middlemen. The findings reveal that the majority of local households had to select village middle men as their main market channel. As a result of that, they got lower profits from the sale of beef.

Fundamentally, the findings imply that local farmers, particularly the poor participate in the local beef market not out of choice but essentially under compulsion because they have to meet consumption needs. This kind of compulsion makes them participate in the local market under adverse terms. The findings of the study, therefore, raise critical questions on the concept of market participation of the poor. Theoretically, market participation implies the choice of the individual household to participate in the output market to gain welfare and can be an effective route for the poor to get themselves out of poverty and improve their living standards. However, the poor, particularly smallholder beef cattle producers in the research site, participate in the local beef market under unequal terms. Their presence does not result from individual choice, but from their critical consumption needs. Moreover, the environment of institution and market in which they engage in the beef market are adverse and not optimal.

If the potentials for beef cattle to contribute towards smallholder's livelihoods in the research site are to be realized, the following policy innovations can be needed to address the adverse conditions in which the poor engage in the market.

First, the credit market should be reformed in a manner of transparency in procedure and of implementation in line with the government's strategies. It means that the farmers should be

provided with credit without collateral or there set up small credit groups as Grameen Bank in order to ensure the poor households an easy way to access credit for beef cattle production for better market participation.

Second, accessibility to market information through establishment of local beef market or "one stop-shop" for production and marketing services may address the market monopoly and improve bargaining power for the local beef producers in transactions.

Third, collective action through cooperation among producers could be the appropriate way for the local farmers to overcome constraints of transaction costs in market participation.

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