

HUMAN AND SOCIAL CAPITAL IN PROMOTING LIVELIHOOD FOR BEEF CATTLE PRODUCTION HOUSEHOLDS IN DIEN BIEN PROVINCE

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ABSTRACT

Beef cattle production is a potential livelihood for people in remote area in Dien Bien province to promote the living quality. The efficiency of this livelihood depends greatly on different available resources in which human and social capital are among the most important. While human capital deals with demographics, labor, age, educational level and livelihood experience, social capital includes the participation in social organisations, community links, market connection, credit accessibility, livelihood public and private services. The research is conducted in two districts of Dien Bien province: Tuan Giao and Dien Bien. At present, the most popular beef cattle production method is free-grazing system which is labor-intensive, nature-dependent and time-consuming. In order to develop better beef cattle production livelihood to bring more benefits for farmers in Dien Bien province, their capacity and involvement in social organisations should be enhanced to get better knowledge on beef cattle production and market information while communication for farmers in beef cattle production value chain and technology should be strengthened.

Keywords: *Beef cattle production, Dien Bien, human capital, social capital, livelihood*

INTRODUCTION

According to statistics in 2018, Dien Bien is the province with the highest poverty rate in Vietnam being 37.08% and the near- poor household rate being 9.78%. Particularly poor households are ethnic minorities occupy 46.28% of the total number of ethnic minority households (MOLISA, 2018). The difficult terrain conditions, poor infrastructure, the low level of education are factors leading to the economical underdevelopment in this area (Dien Bien Provincial People's Committee, 2018). The main livelihood of the majority of people in the area is cultivation and husbandry. And beef cattle production is the livelihoods is considered as one of the solutions contributing to hunger and poverty reduction. However, husbandry activities in this area still face many obstacles due to the lack of natural food and the investment in human capital development, social relationships, information sources to promote activities. Despite its great commercial value and very high domestic and local market demand, the majority of people in this area have not consciously considered cattle as a commodity, but only as an asset. They only sell the cattles when there is a need of money (Duong et al., 2014) for their family activities. In addition, ethnic minority groups are often distributed in remote areas, thus, have little access to the market in big cities and the information about supply and demand for the beef value chain.

Beef cattle production model with better investment of resources has been proposed and applied in many provinces in Vietnam such as in Dak Lak, Quang Tri, Hoa Binh, etc., however the application in farming areas, especially in difficult areas with the majority of the population being ethnic minorities like in Dien Bien province, has many challenges. In order to better understand and propose solutions to develop beef cattle production system, it is necessary to have an analysis of human and social capital, two important factors that currently are used in the local livelihoods. In particular, human capital includes demographics and labor, ethnic characteristics, skills, knowledge, ability to work; which allow people to pursue their livelihood strategy. Social capital includes formal and informal social relations from

which many opportunities and benefits can be created by people in the realization of livelihoods (DFID, 2001). There have been many studies on beef cattle production in the Northwest region, but those studies mainly focus on breeding techniques such as planting grass, preserving, and processing grasses for feed sources. However, there is limited study conducted to analyze the current human and social capital resources for the important factors in the development of intensive beef cattle production systems in this area. Thus, this study aimed to understand and suggest solutions based on human and social capital to improve beef cattle production in Dien Bien province.

MATERIALS AND METHODS

Selected districts, communes and farmer groups

This study provides analysis and recommendations to promote beef production in a more favorable direction for the people. This study was conducted from November 2017 to February 2018, in 6 communes in 2 districts: Dien Bien and Tuan Giao of Dien Bien province. These two districts were selected based on the criteria of geographical location, diversity of farm size and number of beef cattle, cultural diversity, ethnicity, which can represent for Dien Bien province.

Thirteen farmer groups have been formed where people are living to conduct group discussions, including 8 groups in 3 communes: Quai Nua, Pu Nhung and Chieng Sinh, Tuan Giao district and 5 groups in 3 communes: Nua Ngam, Sam Mun and Pom Lot, Dien Bien district. Participants vary in age, ethnicity and number of livestock. A total of 109 people participated in group discussions, of which 70 were men and 39 women. The group discussion applied tools of village mapping (Rambaldi et al., 2006) and Venn diagram (Robinson, 2002). The content of the FGD focused on the description of activities related to beef production livelihoods, human capital, relationships between households and social organizations, and the support of social organizations that households have been receiving.

Secondary data collection

Data on the socio-economic conditions and current beef cattle production situation in Dien Bien and Tuan Giao districts of Dien Bien province, were collected from existing studies in the same field in the Northwest region of Vietnam. They are the two districts with difficult economic conditions of the province, with many households of Thai, Mong and Kinh living together. Through research results, statistics, published by local authorities, national and international organizations, current state of economic, social life and beef cattle production practices in the region will be analyzed.

Primary data collection method

Primary information collection methods are conducted through participatory approach and semi-structured interview. Farmers in the study area are gathered into groups to participate in discussions which includes social research tools in a natural and genuine way. The questionnaire is used to collect quantitative data on the resources and importance of beef cattle production to the livelihoods of the households in the study area. From there, the qualitative data on human and social capital in beef cattle production is analyzed to achieve the research objectives.

Questionnaire

Questionnaire is a useful tool and has been used in many studies on household livelihoods,

providing both qualitative and quantitative data (Jagger et al., 2016). In order to obtain multi-dimensional information with a large number of participants, 180 farmer households in two districts participated in the questionnaires, focusing on the number of people, labor, farming methods, economic situation, especially their husbandry practices. In each study commune, 30 households were selected, representing different breeding sizes and methods, to participate in the questionnaire responses. The heads of households represented for the households participated in the questionnaire. The household heads participating are diverse in terms of ethnicity, age group, and education level. The qualitative and quantitative data obtained from the questionnaire is analyzed according to the content of human and social resources in cattle livelihoods that are currently being applied locally, towards the development of intensive beef cattle production in Dien Bien province.

Focused Group Discussion (FGD)

Focused Group Discussion (FGD) method is a simple method to collect information from a group of people (Morgan, 1997) at a low cost (Sharts-Hopko, 2001). In which, participants were gathered into groups to answer questions. In the process of answering the questions, there may be discussions and arguments to pointing out personal opinions. Holland (2013) stated that the FGD is a very useful tool for statistical analysis. This method is completely suitable in this study, when the object of the study are people in remote areas who often hesitate to communicate individually and directly with strangers. Thirteen farmer groups have been formed where people are living to conduct group discussions, including 8 groups in 3 communes: Quai Nua, Pu Nhung and Chieng Sinh, Tuan Giao district and 5 groups in 3 communes: Nua Ngam, Sam Mun and Pom Lot, Dien Bien district. Participants vary in age, ethnicity and number of livestock. A total of 109 people participated in group discussions, of which 70 were men and 39 women. The group discussion applied tools of village mapping (Rambaldi et al., 2006) and Venn diagram (Robinson, 2002). The content of the FGD focused on the description of activities related to beef cattle production livelihoods, human capital, relationships between households and social organizations, and the support of social organizations that households have been receiving.

RESULTS

General socio-economic characteristics of the research area

Tuan Giao district

Tuan Giao is an upland district of Dien Bien province with the natural area of 113,000 ha with 18 communes and 1 town. The total population of the district is about 80,000 people belonging to 9 ethnic groups, mainly the Thai, H'mong and Kinh ethnic communities. The communes selected to study are Quai Nua, Pu Nhung and Chieng Sinh. All three communes are in the list of the poorest communes of the country, belonging to Program 135, period 2017- 2020 (CEMA, 2017). In Quai Nua and Chieng Sinh, the population is mainly Thai (80%), while in Pu Nhung, the H'Mong people make up the majority, accounting for 98%.

The main livelihood of the people in Tuan Giao district is cultivation and animal husbandry. Cultivation includes main crops: rice, corn, cassava, beans, etc. However, the crop output is low, mainly for domestic use. Main husbandry includes bulls, buffaloes and chickens, of which bull and buffalo are mainly raised for traction and considered as a family asset. People only sell buffaloes and bulls when they need money (Duong et al., 2014). Currently, there is a

segment of men in the district who have migrated to the plains and cities to find jobs in factories and construction sites, sometimes visit their family, leaving women and children at home to take over housework and field work.

Dien Bien district

Dien Bien district is located in the Southwest of Dien Bien province with a total area of 163,985 hectares, bordering Laos with two border gates, Tay Trang and Huoi Puoc, and plays an important role in defense work. The population of the district is about 171,000 people with 8 ethnic communities living together, of which, Thai people account for 53.72%, Kinh people account for 27.86%, and H'mong people account for 8.51%. With the advantage of large land and more favorable geographical conditions than Tuan Giao, people have more access to new knowledge, in Dien Bien district there are already livestock models, including small and medium scale models which already bring high economic efficiency.

Three out of 19 communal administrative units of Dien Bien district were selected to participate in the study: Nua Ngam, Sam Mun and Pom Lot. These three communes all have low growth rates, with activities mainly from agriculture. Transport and trade services are still limited. Out of the three communes participating in the study, only Nua Ngam is in the list of 135 communes, in the period 2017-2020.

Human capital

For agricultural activities in rural areas, family members play an important role and are the main human capital. Results from surveys and group interviews show that, the farmers in the two districts participating in the study mainly used the labor force of their family members. The average number of members in a household in Tuan Giao district was 0.7 persons higher than the average number of members in a family in Dien Bien district (average 5 persons/ household in Tuan Giao district and 4.3 persons/ household in Dien Bien district). This number is relatively high, compared to the national average of 3.6 persons/ household (General Statistics Office, 2019). Correspondingly, the average number of family members of a household who had the labor capacity in Tuan Giao district was 0.5 people which was higher than that of a household in Dien Bien district. These demographic and labor figures were quite similar to studies in other regions conducted in the Northwest (Catacutan and Naz, 2015; Huyen et al., 2016).

Although the number of labor in the household was higher than the average of Vietnam, during the peak of harvest season, such as harvesting or land preparation, households still needed to hire more labor. The average percentage of households that need to hire more people in all seasons was 20.5%. In particular, this figure in Dien Bien district was nearly 3 times higher than that in Tuan Giao district, the main reason was that households in Dien Bien district owned a larger cultivated area than households in Tuan district. On average, each household in the study area needed to hire more manpower corresponding to 27 man-days. In particular, the average number of work days to hire in Dien Bien district was 5 times higher than that in Tuan Giao district. Information on the average number of people, workers and workers hired by households is shown in Table 1.

Table 1. The number of people and workers

Criteria	Dien Bien (n = 90)	Tuan Giao (n = 90)	Average
Demographics/ household	4.33	5.00	4.67
Labor/ household	2.70	3.24	2.97
Number of households that need to hire workers	30.00	11.00	20.50
Number of man-day to be hired (man- day/ year)/ household	45.63	8.73	27.18

Among the interviewed households, the number of households whose head was at young age, under 35 only accounted for 17%. Most of the household heads were from 36-55 years old, accounting for more than 50%. The position of household heads in this study area shows an overwhelming percentage of more than 80% were male. The household heads had lower education level than that of the whole country. The proportion of household heads who were illiterate was nearly 18%, 3 times higher than the national average rate of people who were illiterate over the age of 15 (General Statistics Office, 2019). The percentage of household heads with the highest educational attainment were primary and secondary school was nearly equal, accounting for 34 to 38%. On the other hand, the number of household heads who graduated from high schools and university accounted for a small percentage, only 4-6%. None of the interviewed households received any university training in a discipline directly related to crop and livestock livelihoods.

Nearly all of the people interviewed and participating in FGDs in Dien Bien district were ethnic minorities, of which 2/3 was Thai, and 1/3 was H'Mong people. Meanwhile, in Tuan Giao district, more than 70% of participants were Thai and the rest were Kinh. Despite the differences in characteristics, natural conditions, society and farming practices (Duong et al., 2014), every idea from the groups showed that natural grazing was the most popular method in Dien Bien province. Every day, people took cattles to the meadows in the morning and picked them up in the afternoon. All households had a shelter, mostly rudimentary, for cattles in the area near the house. On cold or rainy days, people went out to collect the natural grass and fed the cattles instead. Characteristics of human capital in Tuan Giao and Dien Bien districts are shown in Table 2.

Table 2. Characteristics of the household heads

Characteristics	Districts		Average
	Tuan Giao (n=90)	Dien Bien (n=90)	
Average age	16-35	12.22	17.22
	36-55	40	51.11
	>55/60	47.78	31.67
Gender	Male	77.78	81.11
	Female	22.22	18.89
Education level	Illiteracy	22.22	17.775
	Primary school	34.44	37.775
	Secondary school	32.22	33.89
	High school	6.67	6.115
	University	4.44	4.44
Ethnic	Kinh	27.78	14.45
	Thai	72.22	68.88
	H'Mong	0.00	16.67

The above summary table shows that the majority of men take the head of household in households, accounting for 98% in Tuan Giao district and 80% in Dien Bien district. In the process of group work, in Tuan Giao, 100% participants showed that, in the implementation of livelihood, the grazing cows was mainly taken by women. This job usually starts in early morning and ends in early afternoon. In Dien Bien district, when asked about gender equity in the family, 100% of participants in FGDs said that there was gender equity in the implementation of beef cattle production livelihoods when men and women shared work. Specifically, men were mainly in charge of building shelters, mowing grass while women were in charge of grazing cows. However, when asked more about other family tasks, especially housework, the majority of the participants answered that it is the work of women. Meanwhile, men had more time to socialize with friends and relatives. Results from group discussions showed that the sale of cattle were mostly held by the male head, who was the house owner and had the right to decide family spendings. If beef was used for other purposes, the decision was often made by the head of household. This showed that the real gender equity was not implemented in the study area. This conclusion is consistent with previous researches conducted in the Northwest region on gender issues and decision-making in agricultural activities (Catacutan and Naz, 2015).

Social capital

Social capital is extremely important in developing livelihoods and increasing income for beef cattle production households. Access to a variety of social capital means a higher opportunity to borrow money and exchange animal husbandry practices for farmers (Solikin et al., 2019). In Tuan Giao district, nearly 90% of the surveyed households had members participating in social organizations such as farmers' union, women's union, and senior union, etc. Most of the survey respondents in Tuan Giao district said that participating in these social organizations is important, 1% said it is very important, while nearly 30% said that participation in these social organizations is not important. Similar to Tuan Giao district, in Dien Bien, the majority of people participated in the local farmers' and women's unions. 83% of respondents thought that participating in such social organization is important or very important, mainly because of easier access to capital. Besides, they had more opportunities to exchange and learn from each other's experiences. Meanwhile, 17% of respondents said that participation in these organisations is not important. Among people participating in TUAF, there were people participating in 2 or 3 different social organisations. Most of these social organisations were organizations formed and under the direction of the State. The number of participants in different social organisations is depicted in Chart 1.

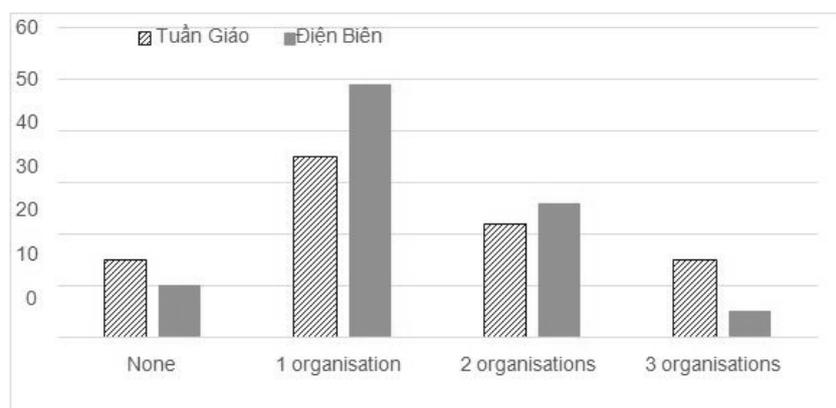


Chart 1. Number of people joining social organisations

Through the Venn diagram drawn by the participants in the group interview, the farmer union was assessed to be the most influential and important to everyone. Not only because, the farmer union had a larger number of participants and more activities, but also because every year, the farmers' union provided loans programs with larger loans to its members than other social organisations. Women's Unions and Youth Unions are also social organisations that provide loans to people, however, the number and amount are smaller than that of farmers' unions, focusing on the key members of the association - women and youth. Regarding access to capital for the people, the Policy Bank plays an important role in both districts, Tuan Giao and Dien Bien, with up to 60% of the participants saying that they had access to the funds from the Bank and can gain benefit from this capital. The loans borrowed from these social organisations are used to develop agricultural livelihoods, including beef cattle production, focusing mainly on buying breeders. When asked about the role of social organisations in livelihood development, most groups only mentioned easier access to loans, with little mentioning about supporting knowledge and technology in livelihood development.

With the support of the ACIAR project, LPS/2015/037 "Intensification of beef cattle production in upland cropping systems in Northwest Vietnam", 10 interest groups on beef cattle production were formed in two districts of Dien Bien and Tuan Giao. Groups are formed on a voluntary basis with the aim of promoting support, exchange of knowledge and information related to beef cattle production among members. However, in the process of operation, the activeness of the members was not high and depended much on the coordination and leadership skills of the team leader. When questioned, the members of the interest group all assessed that professional activities and information exchange brought practical benefits in beef cattle production. However, because there were many other tasks involved, these activities were not regularly carried out with the full participation of interest group members. Mostly, when there was support and request from project staff, interest groups would conduct a meeting with the participation of all members.

In the development of beef cattle production livelihoods for each household, access to market information, new farming methods, and technical innovations are essential. Along with the explosion of technology, Internet, television are sources of quick and convenient access to information along with traditional information sources such as through local authorities and local officials or other farmers. The survey has shown that, at the same time, farmers had access to information related to beef cattle production through many different ways. The main source of information is still through word of mouth, from person to person. Television was the second most important channel of information, while agricultural extension staff were the third most important source of information. Smartphones with Internet access were used by a large number of people. This is a useful tool, assisting people to access information, especially information on capital sources, and promote livelihoods (Do Xuan Luan, 2019). However, only about 10% of the interviewees used this tool to find out information for beef production. There was a remarkable point in Tuan Giao district that the source of information they access was not from traders, demonstrating the weak connection between those in charge of production and those in charge of business in Tuan Giao district. This rate was very different in Dien Bien district, with up to half of the survey respondents saying that they were regularly informed about market expectations and fluctuations from traders. The proportion of people who had access to information from different sources is described in Table 3.

Table 3. Sources of information for people in Tuan Giao and Dien Bien districts

	Unit: %		
Sources	Tuan Giao	Dien Bien	Average
Word of mouth	73.33	56.67	65.00
Television	68.89	30.00	49.44
Agricultural extension staff	57.78	26.67	42.22
Internet	20.00	1.11	10.56
Other (traders, retailers)	0.00	50.00	25.00

CONCLUSION

Households in Dien Bien province have an advantage over other provinces in Vietnam when the average number of labor in households is higher and more than 50% of the household heads are at working age. However, the education level of the people in the study area is lower than the general level in Vietnam. Most of the people have not been properly trained in beef cattle production. Knowledge of beef cattle production is mainly transferred from generation to generation, from farmer to farmer, rather than from being trained.

In order to develop the beef cattle production livelihoods, it is necessary to change awareness, raise farmer's knowledge and promote the strength of social organisations in Dien Bien province. People join social organisations, mainly state-managed organizations, with the main reason of being accessible to capital sources for livelihood development. Some interest groups have been formed in the communes of Dien Bien, but the activeness of the members is not high, the effectiveness of activities depends much on the coordination and leadership skills of the team leader. Research results have shown that the main information source of farmers at present is word of mouth, with many limitations such as low accuracy and long updating time. It is necessary to promote access to information on market needs and requirements, technical improvements, access to capital, use of new technologies via the Internet, and ensure speed information updates. The link between buyers (traders) and sellers (farmers) in the value chain is weak and needs to be strengthened in conveying market information.

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