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#### Abstract

Using a broad systematic literature review of peer reviewed publications and grey literature, the paper summarizes the most relevant gender issues in the pig value chain of Vietnam, and the ways in which these could be addressed. Specifically, women were found to face more severe constraints than men in accessing productive resources, markets and services. They have limited access to land use rights and therefore have limited access to resources for pig production. Besides, time constraints and cultural norms hinder women from actively participating in trainings and extension activities. Several projects/programs have been undertaken to help reduce the gender gaps. Lessons learnt from successful projects indicate that approaching women farmers via the Women's Union is an effective way to increase the active participation of women in trainings. Identifying and providing technical trainings that meet specific needs of women farmers could lead to productivity increase. Besides, it is important to facilitate collaboration and dialogue between men and women to encourage men's support of women's empowerment and to improve the positive impacts of project interventions.

Keywords: gender, women participation, pig value chain

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#### Introduction

Pig production is central to the development of the livestock sector in Vietnam, accounting for 74.2% of total livestock output (MARD, 2014). Vietnam's pig herd has increased from 21.8 million heads in 2001 to approximately 27.2 million heads in 2015 making Vietnam the biggest pig producer in South East Asia and third producer in the world. About two-thirds (70%) of the national pig production is in the hands of smallholder farmers with typically 1 to 5 sows (ILRI et al., 2011). Small-scale pig production is of great importance to livelihood of smallholder farmers, acting as a source of employment and household income, as a supplementary source of funds for children's education, for investment, and as a "living bank" against shocks (accidents, illness, natural disasters, etc.). It contributes approximately 14% to total rural household income or 24% of agricultural income and generates about 4.13 million fulltime jobs along the pork supply chain, with women contributing 1.5 time more labor time than men suggesting that household pig production is a viable income source for women in the absence of other employment options beyond the household. (Lapar et al., 2012). The share of male labor, on the other hand, increases with production scale, particularly in production systems with slaughter hog as output, indicating the increasing role of male labor in those systems as farms expand. According to FAO et al. (2010), 57% of pig keepers in rural areas are male-headed households and 47% are female-headed households.

Along with population increase, economic growth and consumer preference, pork demand in Vietnam is increasing remarkably. Pork consumption per capita per year has increased from 12.9kg in 2000 to 27.3kg in 2012 and is projected to reach 34.5kg in 2024 (OECD, 2016). To meet the growing demand, Vietnam has set up the Livestock Development Strategy for the period up to 2020 with the main objective of replacing smallholder farms with large, intensive and commercial farms. Accordingly, the restructuring is necessary, especially in the context of strong global integration where trade agreements and regulations are likely to favor large producers and processors with stable supply and better control of disease, phytosanitary and environmental issues. This poses challenges for the existence of current smallscale pig production systems. However scaling-up and modernization of the existing smallscale producers which require huge capital investment are the way to go in the foreseeable future given that large-scale, commercial farms, will not be able to dominate the pig sector in the short-term (MARD, 2014). Empirical findings show that pig smallholder producers in Vietnam can successfully compete with larger farms by using improved technologies (Lapar et al., 2012). More efforts from the government, donors, and development practitioners are currently put in practice to help improve productivity and food safety of small-scale pig production.

Women are dominant players in small-scale pig production and marketing, accounting for two-thirds of labor force in the sector. However, many existing policies and projects are inattentive to differences between men and women regarding access to resources, roles, and constraints. The lack of deliberate recognition of any existing inequities further contributes to maintaining the status quo at best or worsening the biases at worst. This somehow hinders women's productivity and reduces their contribution the sector development (FAO, 2011). It

218

is, thus, essential to identify and address gendered constraints in small-scale pig production in order to achieve equitable, inclusive and optimal outcomes of interventions.

This paper summarizes the main gender issues in small-scale pig farming that emerge from a series of ongoing and recently completed research projects on pig production in Vietnam. More specifically, it reviews gender differences in relation to access and control of productive resources (land, technology, extension services, and financial resources, etc.), roles, responsibilities, decision making power and constraints women and men face at different nodes of the pig value chain. The paper documents several projects which have been successfully improving the livelihoods of actors involved in the chain and bringing women into focus. Specific recommendations for policy makers and development organizations are proposed to promote equitable participation of women and men in the value chain.

# **Materials and Methods**

The analysis is based on a broad systematic literature review of peer reviewed publications and grey literature on livestock and pig production in Vietnam. Literature was sought using web search engines (Google) and keyword tracking. Key words such as "gender", "pig", "value chain" guided the search. Other specific search words included "gender roles", "decision making", "breeding", "feeds", "markets" and "diseases".' In each search, "Vietnam" was included to narrow down the search to the geographical context under investigation. Bibliographic references in each reviewed paper were also examined to identify additional papers relevant to the scope of this review. The findings were then categorized into key relevant domains - including gendered ownership, division of labor, decision making, and access to and control of resources – that structure this article.

In addition, quantitative databases from the Humidtropics baseline survey in Northwest Vietnam with a total sample of 400 farm households and the Good Animal Husbandry Practices (VietGAHP) adoption survey of 112 pig producers in Nghe An province were utilized to provide data on pig ownership and credit access for pig production. Four single-sex focus group discussions with pig producers in Nghe An province were undertaken by ILRI in 2015 to provide qualitative findings on labor allocation, decision making power, access to and control of productive resources in pig production to enrich the quantitative data.

Documents on project interventions in the pig value chain were also sought. Only projects conducted in Vietnam or in the context of Vietnam that tackled gender issues and included some (early) evidence on outcomes or impacts of these interventions were selected for in-depth analysis.



#### **Results and Discussion**

#### **Key Gender Issues**

#### **Pig Ownership**

Livestock ownership has direct impacts on women and children in terms of food security insurance, potential income or fertilizer use (World Bank, 2009). It enables direct access to animal source foods; provides cash income from sale of livestock and livestock products that can in turn be used to purchase food especially during times of food deficit; and contributes to increased aggregate cereal supply as a result of improved productivity from use of manure and traction. Gendered ownership of livestock is relatively well documented in African countries, where women are more likely to be owners of small animals like pigs and poultry and men tend to claim control over large animals such as cattle, horse, camels, etc. (Deere et al., 2009; FAO, 2009; Njuki and Sanginga, 2013). This is likely not the case in Vietnam where approximately 90% of households surveyed in Northwest Vietnam, a Humidtropics site, reported joint ownership of pigs. Similar findings emerged from four focus group discussions with men and women separately in Nghe An province. However, these findings are specific to the study site and need to be validated in other context in Vietnam. Also note that explorations of pig ownership in Vietnam so far is mostly done with only one or two questions incorporated into questionnaires without a clear definition. This might result in misunderstanding of the term "ownership" and therefore bias conclusion on the ownership status of pigs. Galie et al. (2015) explored gender perceptions of resource ownership among rural livestock owners in Tanzania, Ethiopia, and Nicaragua and found a large variability of local understanding of the term 'livestock ownership'. Different understandings of ownership could be based on separate domains including (i) benefiting from the livestock, (ii) source of livestock (e.g. "a person could be said to own livestock if they had purchased it, received it as marriage gifts, and/or inherited it"), (iii) decision making, (iv) taking care of the animals, (v) knowledge of resources, (v) having full authority over livestock, or (vi) carrying the responsibility. Taking these domains into consideration, the term "joint ownership" may have different meanings across contexts, for example "shared labor tasks" in Ethiopia, "shared legal rights" in Tanzania, and "legal rights of the household head in conjunction with informal rights of other household members" in Nicaragua. This implies that asking simple questions such as "who owns pigs in your household?" seems to mean little in understanding the true nature of pig ownership in Vietnam. This also creates room for future research to shed light on the existing ambiguity of gender ownership in the Vietnam pig sector.

#### Access to Land

Generally land serves as a collateral to access credit for financing production inputs (World Bank, 2009). According to the Vietnam Land Law 1993, farmer households who were allocated land for long-term use had rights to rent/lease, mortgage, transfer, exchange, and

220

inherit. Land use right certificates (LUCs) were granted to land users but only the name of household heads was put into the certificates. In Vietnamese culture, household heads are mainly husbands; 80% of the households in rural areas are male headed and 20 percent are female headed (FAO et al. 2010). As a consequence, after 10 years of implementation of the Land Law 1993 only 10-12% of LUCs were granted to women (World Bank, 2011). Women were denied formal land rights despite their contributions to family labor. In practice women had no legal proof of their rights to land, which reduced their ability to claim their rights in cases of dispute, divorce or death in the family. This also limited women's opportunities to use the land as collateral for credit when needed (World Bank, 2002). The Land Law 2003 provides a more gender inclusive policy framework for land ownership in Vietnam, (e.g., both husband and wife could have equal access to land.) Signatures of both would be required in LUCs. The newest Land Law 2013 added a number of new stipulations amending the issuance of LUCs. Accordingly if land is jointly possessed by several family members, individual or shared LUCs would be provided. However, due to a number of factors that related particularly to a lack of human capital (knowledge, capacity, etc.), financial capital, and limited capacity of local administrative level, this new Land Law has not been effectively translated into action at community level. As of 2008, presence of names of both husband and wife was recorded for only 18.2% and 29.8% of the LUCs in rural and urban areas, respectively (Alvarado et al., 2015). In 2015 Alvarado and his team surveyed 864 households in Long An and Hung Yen to assess farmers' ability to access land, especially women's land rights. The findings indicated that only 1% of the land plots were registered under both names of couples in Long An and 35% in Hung Yen. Plots were most often registered under a man's name in both provinces.

The unequal control over land reduces opportunities for women to improve productivity by reducing their access to credit, and to technology and information on productivity-enhancing practices and inputs (Agarwal, 1994). Several studies have examined gender-segregated LUCs on agricultural productivity, household economic security, and vulnerability (Menon et al., 2014; Newman et al., 2015). They found that exclusively or jointly holding LUCs by women would bring in beneficial effects including increasing household expenditure and women's self-employment, and lowering vulnerability to poverty. In addition, joint titles are a way to improve women's bargaining power within the household. In the context of Vietnam, measures to effectively implement the gender inclusive spirit of the Land Law could further facilitate improved benefits from access to and control of land use. Further research is thus warranted to identify these.

# Access to Credit

Credit is essential for improving agricultural productivity and household livelihood. A study on rural development finance in Vietnam by Duong and Izumida (2002) indicated that 54% of formally sourced credit was used for livestock investment, including pigs. Credit is used for purchasing pig stocks and feed, upgrading pig shelter, purchasing farming implements, adopting new technologies, etc. Prevailing sources of credit that farmer households often seek

for include Vietnam Bank for Agriculture and Rural Development, the Vietnam Bank for Social Polices and People's Credit Funds, relatives and friends, and village money lenders (Le, 2014).

Despite the availability of a series of formal and informal sources of credit, the rural financial market is more easily accessible to / or addresses most men. For example, in the VietGAHP adoption survey of pig producers in Nghe An province, 22% of households have loans for pig production, of which 98% borrowers are men. This is driven from unequal control of land – a unique physical collateral required for accessing credit- between men and women.

#### **Roles, Responsibilities, and Decision Making**

Women and men are responsible for different tasks in households as dictated by customary rules that define which are men's tasks and which are women's (FAO, 2013). For example, rural women, in addition to shared responsibilities with men such as working on crop farms, raising animals, working for wages, selling agricultural products, etc. have to be involved in all household chores (i.e. bearing children, caring for family members and their homes). These additional activities are essential to well-being of households even though they are often not nationally accounted as economically active employment.

In pig production, labor is mainly provided by family members, mostly women who have limited off-farm employment opportunities. Women are likely to contribute more time to pig production than men. Time spent by women on pig related activities is 1.5 times higher than that of men (Lapar et al., 2012). However, the share of family labor and female labor decreases with production scale. In large farm, for example, although family labor still predominates, outside labor is hired in times of labor shortage on a daily or seasonal basis rather than as permanent employment (Tisdell, 2010). Besides, large farms are more likely to be ran by men and women's labor contribution is almost negligible and restricted to non-managerial tasks such as cleaning and feeding (Pham, 2011).

For allocation of labor in pig production, traditional roles are at play, heavy tasks such as constructing pig shelters and treating pig diseases are assigned to men, while 'light' tasks such as cleaning and feeding are handled by women (ILRI, 2015). At other nodes of the value chain, men are more likely to work slaughter/collection activities while women tend to be more active in processing and retail. In particular, slaughter of pigs at abattoirs are generally done by men, but women still support in some activities such as cleaning of the offal, gathering dung, carrying the quarters of meat to the wet market, etc. On the other hand, women are observed to be dominant players as retailers in traditional markets where most of fresh pork is being sold in Vietnam (Grace et al., 2015).

Participation of women in decision making depends on the scale of pig production (small versus big), and on matters pertaining to time and resource investments to sustain pig production. Focus group discussions with men and women groups in Nghe An province (ILRI, 2015) revealed that in smallholder pig production, decision makers are mainly women because they are the main labor involved while their husbands seek other job opportunities. However, as the scale of production expands, men tended to be more involved in pig production when

they see the potential for significant income that could be gained from the activity. Decisions are usually made based on agreements/negotiations between husband and wife, but in case of disagreement, the husband would usually retain his traditional role as the final decision-maker. During focus group discussions with men, extreme gender discriminating viewpoints were revealed, such as women "gravitate to child rearing" and "things around the home" while men gravitate toward "construction projects", so "men know everything and understand better than women". In those extreme cases, every decision in the household, not just limited to pig production, are made by the husbands.

Decision making patterns can be changed given the influence of demographic and cultural factors. For example in the ethnic minority groups such as Tu Di, Pa Di, Nung and Day, decisions on raising and selling pigs are equally distributed between women and men, while Dao and Hmong women have less decision making power (Vu, 2015)

# **Knowledge and Skills**

Women face disproportionate challenges compared to men in accessing pig related services and information. This is partly evidenced by unequal involvement of men and women in technical trainings. Even though women are usually the main family labor involved in pig production as mentioned above, they are likely to participate less than men in extension trainings. Besides, extension services most often do not respond to the specific needs of female farmers. For example, under the "Biogas Program for the Animal Husbandry Sector in Vietnam" initiated by the governments of Vietnam and the Netherlands since 2003, 103,000 households in 8 provinces nationwide have been supported to build biogas plants to utilize manure from pig and other livestock production. The program organized pre- and post-construction trainings for users; however, only 22.8% of trained users were females even though they were the main users of this technology at home (MARD and SNV, 2011). This finding suggests that women are likely to be disadvantaged in some key stages of promoting technology uptake in the biogas value chain, by receiving very poor levels of initial information and given their limited involvement in decision-making and training/technical advice despite the fact that they are the main users of this technology in households.

#### **Examples of Interventions Addressing Gender Issues**

# CODESPA's Pig Raising Program in Yen Bai Province, Vietnam

CODESPA is a non-profit organization working in Vietnam with the aim of helping low-income communities to become fully involved in economic activities for income generation and capacity development aimed at realizing their human potential. In 2011, CODESPA initiated a program in Yen Bai province "to reduce the rural poverty and the environmental impact of pig raising activities through the improvement of households' skills and the linkages between suppliers, farmers and buyers." The project started in 12 communes and then expanded its action to 22 communes by January 2012. With the roll-out of the program, the target changed from 3000 to 7500 pig producing households by the end of the project in 2014, of which up to 1500 were extremely poor households.

At an overall level, the program helped strengthen the pig value chain through improved pig raising techniques and commercial linkages between suppliers, raisers, and sellers and therefore improved farm household livelihoods. It provided support in drawing up purchase contracts between groups and buyers that facilitated higher prices for the pigs, and minimized risk for small scale producers by ensuring buyers of their pigs. In addition, the project provided technical training to pig raising households that contributed to uptake of better management practices and appropriate use of inputs promoted in the rural marketing campaigns. The training activities were combined with the promotion of new products/services through trials/demonstrations. As of July 2013, average income from pig raising of households involved in the program has increased from  $\notin$ 80 to  $\notin$ 112 per year.

It is noteworthy that the program was one of the few that successfully put women at the center of its approach. With the acknowledgment that household pig production which is a side-line activity and a means to diversify overall household incomes is mainly run by women, the first step of the program was to set up a number of pig raising groups in the targeted communities via Women's Union. By involving the Women's Union in social mobilization, women pig farmers were reached, and encouraged to participate in trainings on pig feeding, feed preparation, maintaining a pig pen, vaccinations and waste management. The program required the participation of both men and women in training and information sessions. Since husbands and wives were unable to attend together, they were encouraged to take turns. As a result, in most cases, women came to group sessions to represent the household, or together with their husbands. This approach seems to have worked well to ensure the active participation of women in the trainings.

The program was also the first one in the region to train and integrate women para-vets in the market. Each group was required to select someone to be trained in performing basic veterinary services for pigs and most of those selected were women. The reason for this selection was that women were well known for their pig raising skills in the community, and that pigs raised by women were likely to get less sick than men. The program collaborated with the government's Animal Health Services to carry out trainings and to ensure that trained paravets would receive government certification for the skills they obtained so that they were included in the government livestock services. Women para-vets gained recognition for their knowledge and skills in the field which used to be considered as men's exclusive field. This has gradually changed common perspectives on women's ability to hold respected positions and have a voice in the community. It is a good outcome contributing to gender-equity that should be continuously supported in the follow-up phases and other development programs.

# Oxfarm's Project "Enhancing Market Access and Promoting Economic Leadership for Raglai Women in Ninh Thuan Province"

The project "Enhancing Market Access and Promoting Economic Leadership for Raglai Women in Ninh Thuan Province" (Ninh Thuan PWEL or RVNA93 Project), was funded by Oxfam and implemented for the period 2011 - 2015. The project's overall objective was "to improve the economic and social status of 3,000 Raglai women in Ninh Thuan province". One of its main components is to enhance the black pig value chain. Up to 2014, it supported the consolidation of 22 black pig raising groups which included 292 members (100% women) in 2 districts, namely Bac Ai and Thuan Bac. The project provided trainings of modern techniques in raising black pigs such as construction of pig pens, application of semi-free range husbandry models, preparation of mixed feed, and identification of some common pig diseases, etc. As a result, Raglai women gradually became aware of the importance of new techniques, e.g., adopted the semi-free range pig raising model, prepared good animal feed from available vegetable and rice bran, applied some basic veterinary skills (e.g. injection of medicines, sterilization of male piglets, recognizing pig diseases), and consulted local veterinarians when pigs were sick. Also, the project has helped to gradually change the mindset of part of Raglai communities, especially of Raglai women regarding market-oriented production. They started raising pigs for sale and not just for barter or for family events, and learned to calculate costs and benefits of pig production.

By focusing on women only as the main target group, the project has also faced some drawbacks. Some technical activities were considered as too difficult or culturally inappropriate for women so the effectiveness was not high. For example, result of group discussions in one project site revealed that women received trainings on pig sterilization, but they felt uncomfortable practicing the technique, and thought their husbands could do the work much better. Besides, too much focusing on women in project implementation could lead to a misperception of bias against men and thereby discourage the husbands from being supportive of their wives' participation in these projects.

# **Conclusions and Recommendation**

Women are major contributors to pig production in Vietnam but face various constraints that limit their ability to achieve optimal production. These key constraints include, but not limit to, unequal distribution of housework, limited control over land and access to credit, and limited access to information and advanced technologies. In the context of limited beyond-household employment opportunities, pig production remains the main livelihood of rural women. It serves as a primary form of savings, as well as insurance against accidents and illness. Regular income from pig sale can provide money for household goods and services such as school fees for children, implements, animal services or for scaling up pig production. For small-scale production featuring less than 10 pigs per year, almost all tasks as well as decision making related to pig production are likely to be in the hands of women. This trend, however, tends to change when production scale increases. Men would be more involved in

pig production when they see more potential for profits compared to profits possibly gained from outside job opportunities. Most large-scale pig farms are managed by men; women play the secondary role such as supporting their husbands to manage wages, hired labor, pig feed and other tasks assigned by their husbands. Although empirical evidences showed that almost all decisions are jointly made by both husband and wife in a household; in extreme cases, the husband calls the shots, retaining his traditional role as final decision-maker.

Women generally have limited access to land use rights and therefore have limited access to resources for pig production. Access to resources are controlled and dominated by men due to their sole names titled in the land use right certificates – the required collateral for resource access. The amended land law 2013 ensures equal access to land of both husband and wife; however because of a number of factors that relate particularly to a lack of human capital (for example, knowledge, capacity, political commitment) and financial capital (for example, lack of funds, decentralization constraints), many provinces still face challenges in translating this amended law into action at the community and household levels. Further work to identify institutional mechanisms and improved local level regulatory guidelines to ensure effective implementation of the Land Law that will engender the envisioned gender equity in access to land will be worthwhile pursuing.

Women are less likely than men to participate in community meetings and trainings related to pig production even though they are main players in this sector. The main reason given for women's low participation is that women are mostly tied up with household chores in addition to pig production, so they do not have enough time to participate in meetings/trainings and, in some cases, are not encouraged to do so by their husbands or their communities. In addition, some development projects provide trainings without taking into consideration the specific needs of female farmers.

Along with the rapid development of the pig sector in recent years, gender issues are now mentioned more in livestock projects. Several efforts have been done to help reduce the gender gaps. Lessons learnt from successful projects indicate that approaching farmer women via the Women's Union is an effective way to increase the active participation of women into trainings. Identifying and providing technical trainings that meet specific capacity development needs of women farmers could lead to productivity increase. Besides, it is important to facilitate collaboration and dialogue between men and women to encourage men's support of women's empowerment and to improve the positive impacts of project interventions.

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