

Evaluating capacity building methods to strengthen livestock extension outcomes in Laos

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Abstract. In the remote upland regions of Laos many farming families live in relative poverty, relying on subsistence agriculture. Farmers need effective extension services to provide advice on commercial and technical options to supplement traditional practices and improve their livelihoods. One of these options is small-scale livestock production. However, the quality and quantity of extension staff working in livestock production is limited. Improving the knowledge and skills of extension staff working with upland ethnic minorities is a key goal of the Lao Ministry of Agriculture and Forestry. This paper presents research findings from an evaluation of capacity building methods being used for extension staff working across a range of livestock projects in Laos. Qualitative semi-structured interviews were conducted with 14 Livestock Project Managers and two Provincial Coordinators to find out what capacity building methods they used and the relative effectiveness of each method. In-depth interviews were subsequently held with 10 District Managers and 20 District Extension Officers to gain more local perspectives on capacity building including factors influencing outcomes at the farmer level. Suggestions on how capacity building of livestock extension staff can be strengthened and sustained were elicited from all interviewees.

Capacity building methods used by all project managers included workshop training, on the job learning, staff meetings, mentoring and field trips. A few projects also used on-site training, farmer field schools, village learning activities and the internet. The strengths and weaknesses of each method are described in the paper. Interviewees concluded that all methods have advantages and disadvantages, depending on how and when they were used. Workshops, monthly meetings and field trips are particularly costly, relying on project support from international donors, so the sustainability of using these methods is an issue for government. The three key learnings from this research are: 1) capacity building methods need to be carefully combined to take advantage of their relative strengths and weaknesses; 2) the role of district managers in building staff capacity needs greater recognition and support; and 3) capacity building methods can be strengthened by working in teams of different ages and providing further study opportunities.

Keywords: capacity building, extension, livestock development, Laos

Introduction

Most farming households in the remote uplands of Laos live in relative poverty. Despite steady economic growth since 1990 (6.8%), and a 13% decrease in the incidence of poverty, one third of the Lao population are still considered poor and illiterate at per capita GDP of \$490 (ADB 2006). The Lao Government wants to alleviate poverty and reduce shifting cultivation practices by encouraging rural communities to intensify their agricultural production through cash crops, fruit trees and raising livestock which generate income (GOL 2005). The agricultural sector accounts for about half the country's GDP and livestock production in Lao PDR contributes around 15% to national GDP and 33% of agricultural GDP (GOL 2005).

Farmers are highly dependent on effective extension services to provide advice on commercial and technical opportunities to improve their livelihoods. Extension officers are stationed in each district to assist farmers in growing forages for livestock and using improved methods for livestock feeding, breeding, controlling diseases and marketing. However, the technical and extension knowledge and skills of these government extension staff are lacking due to low educational levels, relative inexperience and minimal support (Stur et al. 2002).

Since 1995, there have been many livestock development projects that have focused on increasing livestock production via government extension services (Millar and Photakoun 2008). Staff capacity to learn technical and extension skills is critical to success and is influenced by the capacity building methods used for livestock extension. However, there has been little research into the capacity building methods used for extension professionals or their effectiveness in improving staff performance and outcomes for rural communities.

This paper presents research findings from an evaluation of capacity building methods used for extension professionals working across a range of livestock projects in the northern uplands of Laos. The first section provides a brief theoretical context on the role of capacity building in rural development and extension, with definitions. This is followed by an explanation of the research methodology used and the research findings. The paper outlines the types of capacity building methods used and why, including the relative effectiveness of each method in relation

to positive outcomes for staff and farmers. Factors influencing capacity building outcomes are described along with findings on how capacity building of livestock extension staff can be strengthened and sustained. The paper concludes with three key learnings from the findings, which are aimed at extension and development practitioners, managers and policy makers.

The role of capacity building in rural development and extension

Capacity is the power or ability of something- a system, associations, groups and individuals to conduct and produce results appropriately (UNDP 2002). Capacity building in general relates to enhancing or strengthening a person's or organisation's capacity to achieve their goals (Lusthaus et al. 1999). Capacity building also increases the abilities and resources of persons, communities and organizations to manage change (Coutts et al. 2005).

Capacity building at local, regional and national levels has become central to the goals of development organisations to reduce poverty and improve livelihoods of those in developing countries (OECD 2000 cited in Horton 2002). This is due to past failures of rural development programs to reduce poverty and empower local people to improve their livelihoods. Development organisations tended to transfer only funding and modern technology to farmers or provide formal education to rural communities (Horton 2002). These activities were conducted by government or NGO researchers and extension officers, with little involvement of local people. After projects finished, local people could not continue to improve themselves and develop their communities.

As a result, many countries and communities have remained poor and still have weaknesses in their development. Rural communities often become dependent, waiting for donors and government sectors to continue to support them, because the development projects did not develop the capacities of local people or organisations in those rural communities to manage activities and maintain facilities (Horton 2002). Projects are often expensive, donor-driven, dependent on outside experts and don't follow national priorities of the country (UNDP 2002). Eade (2007, p. 633) concluded that "The sad reality is that most development aid has precious little to do with building the capacities of 'The Poor' to transform their societies."

Therefore, improving the capacity building of individuals, groups, organisations and communities is necessary for rural development, poverty alleviation and environment protection (Degnbol-Martinussen 2002). Public and private agricultural extension organisations play a major role in capacity building of rural people (Coutts et al. 2005). Their mandate is to facilitate farmer learning and decision making regarding changes to farming systems including trialling new technologies and overcoming problems such as food security, poverty reduction, environmental management and marketing of products (Rangnekar 2006). SELN (2006, p. 3) claimed that "extension is concerned with building capacity for change through improved communication and information flow between industry, agency and community stakeholders."

Building the capacity of rural extension staff is central to this process so that extension services can be effective in helping poor farmers. However extension capacity building is often overlooked in the rush to get the results of research and development products out the door and taken up by rural communities (Millar and Connell 2009). In Laos, most extension officers are young, having just finished studies at Agriculture College or University, when they apply to work with government, private, or non-government development organizations. These new younger staff members have technical knowledge and energy to work in remote areas, but they lack extension knowledge and skills. (e.g. how to communicate ideas and share knowledge with farmers, how to conduct farmer training and organize group meetings, how to organize cross visits and study tours). Many district extension officers who work in rural remote areas also find it difficult to access new information.

Capacity building methods used in rural development and extension may include conferences, workshops, consultations, studies tours, participatory research and extension, on-the job training, demonstration plots, coaching and mentoring (Stephen et al. 2006). Training is often used as the main capacity building method in developing countries in Asia (Nelson, 2006 cited in Stephen et al., 2006). However, once the training is finished, there is often no follow up support for extension staff or farmers. Therefore, additional capacity building methods are needed.

Of central importance to capacity building methods for extension is 'learning-by-doing' (NAFES 2005, p. 70). The learning-by-doing approach has been an important part of adult education to develop capacity and insights across a wide range of sites and experiences (Bounde et al., 1985 cited in Benjamin et al. 1997). However, Owen et al. (2004, p. 309) argued that not every problem can be easily dealt with by a "learning-by-doing" approach. For example, dealing with contagious livestock diseases is not suitable for on-farm experimentation.

Macadam et al. (2004 cited in McKenzie 2007) argued that capacity building should be a concept of everyone learning and sharing experiences together (co-learning). Hence, this study was aimed at exploring the views and experiences of program managers, district heads and district extension officers on staff capacity building for livestock development.

Research methods

The research was guided by the following key research questions;

1. What capacity building methods have been used to support livestock extension staff in upland areas of Laos?
2. How effective have these methods been in delivering positive outcomes for staff and farmers?
3. What factors influence the effectiveness of capacity building for livestock extension staff?
4. How can the capacity building of livestock extension staff be strengthened?

Capacity building approaches are evaluated primarily for effectiveness in achieving long-term outcomes in terms of improving the ability of people to act (Conley and Moote 2003). Researchers want to understand the capacity building process that they are evaluating more deeply in order to improve them in the future (formative evaluation). Horton et al. (2003, p. 44) suggested that "evaluation studies help managers and staff in participating organisations to increase their knowledge and skills and change their attitudes about what capacity development is and what successful capacity development involves and also to motivate managers and staff to discuss the performance and future of their organisations for specified target outcomes"

A largely qualitative research approach was considered more appropriate for evaluating capacity building than using mainly quantitative methods for the following reasons:

- It can provide in depth information to explain relationships between issues
- It seeks to explain difference by aiming to understand social diversity and social interaction within population groups and;
- It attempts to explore realities and complexities of societies and communities (Campbell and Holland 2005).

Patton (2002) explained that qualitative methods are ways of finding out what people do, know, think and feel by interviewing, observing and analysing data from documents. Interviews were chosen as the most appropriate method to use given time constraints and the need to use Lao language as the main form of communication.

Project manager interviews

Semi-structured interviews were conducted in March 2008 with 14 Livestock Project Managers and two Provincial Coordinators to find out what capacity building methods they used and the relative effectiveness of each method. Purposeful sampling was used to select project managers from a range of livestock projects operating in Laos. Six projects were administered by the National Agriculture and Forestry Extension Service (NAFES), four projects were within the Department of Livestock and Fisheries (DLF), two projects were implemented with the National Agriculture and Forestry Research Institute (NAFRI) and two projects were managed by non-government organisations. Half of the projects were focussed on livestock production only, whilst the remaining projects were more integrated with livestock production as a component.

According to University ethics guidelines, interviewees were firstly contacted by letter or email with information regarding the purpose of the research and nature of the interviews. A follow up phone call confirmed their willingness to participate in a 1-2 hour interview. Interviewees were given a consent form to sign to acknowledge confidentiality and the opportunity to withdraw at any time from the interview. Interviews were taped and transcribed using codes instead of names. Pre-testing of interviews was conducted with two project leaders and changes made to the interview process and guide. The following questions were used as an interview guide;

1. What role have you played in capacity building within your project?
2. What methods have you used for capacity building?
3. What methods were most effective and why?
4. What have you learnt about the different methods for capacity building?
5. How can capacity building of staff be strengthening to improve outcomes for your project?

District manager and extension officer interviews

Following analysis of the project leader interviews and identification of several themes, further exploration was needed at the district level to gain local perspectives on capacity building methods from those directly affected. In-depth interviews were subsequently held in November 2008 with 10 District Managers and 20 District Extension Officers from the five northern

provinces of Phonsaly, LuangNamtha, LuangPrabang, XiengKhuang and Vientiane. The same ethical procedures were followed as with project managers with a similar interview guide, however discussions invariably focussed more on outcomes at the farmer level.

Rating of capacity building methods against competency requirements

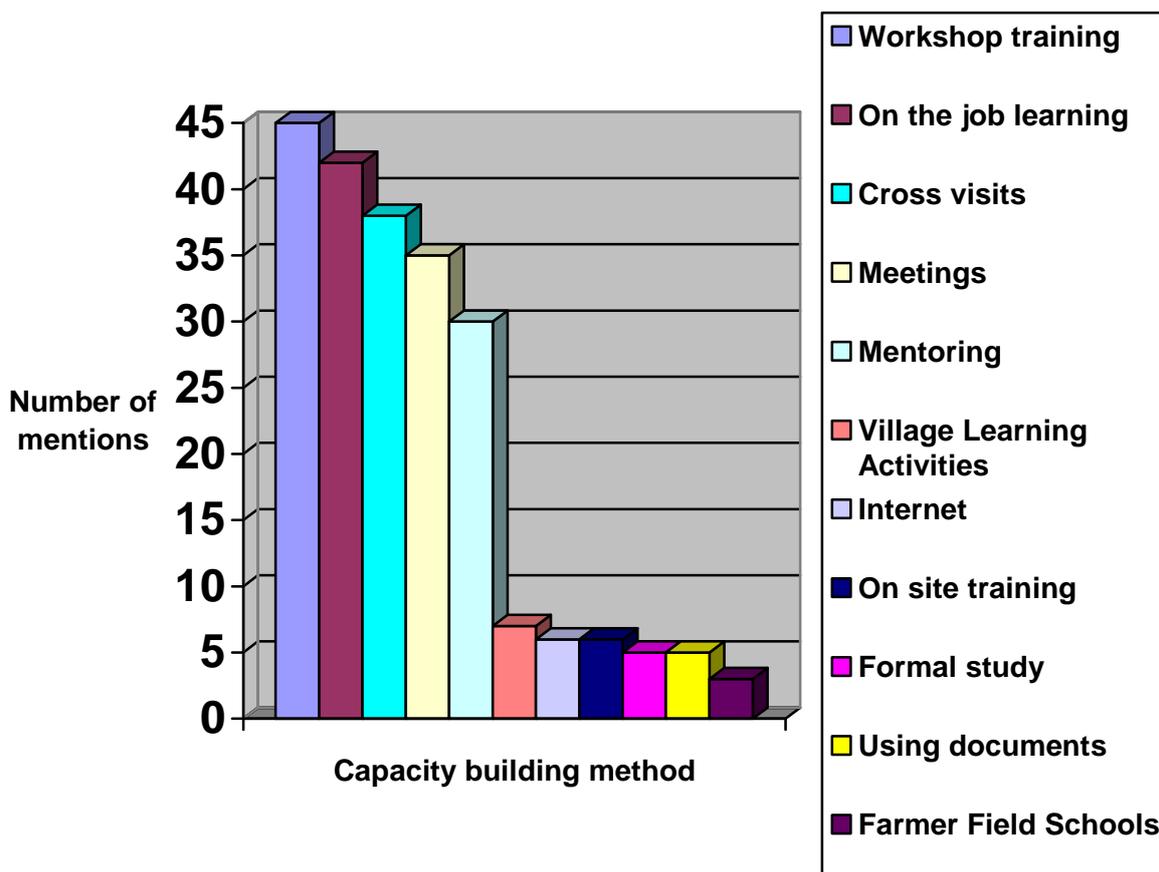
In addition to the district extension officer interviews, 30 district staff were asked to fill in a survey to rate eight major capacity building methods against a range of livestock extension competencies in order to gain another measure of effectiveness. This survey was not designed to be statistically significant but rather to provide descriptive analysis of trends that may or may not support interview findings.

Research Findings

Capacity building methods used

The most commonly used capacity building methods were training workshops and courses, on-the-job-learning, staff meetings, mentoring and attending cross visits or study tours. Less common methods were on-site training, village learning activities, farmer field schools, formal study and using documents or the internet. Figure 1 shows the total number of mentions by interviewees regarding capacity building methods used in their projects and districts. There was very little difference between the responses of project managers, district managers and extension staff in this regard.

Figure 1. Capacity building methods used



Effectiveness of capacity building methods for livestock extension

Workshop training. All interviewees except one said that workshop training is very important because it is an effective way for extension staff to gain theoretical knowledge of livestock production and project requirements. Project managers provided training for extension staff in specific knowledge, skills or abilities that can be applied immediately on completion of the workshop. For example, six projects provided workshop training on how to conduct a “participatory livestock problem diagnosis” (PD), whereby extension staff help farmers in target villages to identify their general and specific livestock problems in the village. Some project

managers provide workshops in the first six months of project implementation. Project manager (2) mentioned that:

"...workshops bring stakeholders, experts, researchers, local staff, NGO staff and facilitators together to present results of the project and new technologies for animal feeding. There are benefits for all participants gaining access to research results and they are able to share ideas with each other."

According to district managers, training is the base method and very important for upgrading knowledge, skills and attitudes of district extension staff. Training helps district livestock extension staff understand the purposes, approaches and activities of projects, and also helps to improve their work planning (District Manager 3). District staff confirmed that training workshops and courses are an important capacity building method for them along with working closely with farmers in the field. As district staff (3) stated; "...training helped me to understand the theory underlying the initiative, it explained the initiative to me."

The disadvantages of training workshops are the high cost (eg for Perdiem, meals, accommodation, transportation, meeting room fee and equipment) and time for preparing materials, presentations and contacting facilitators. Other limitations of workshop training mentioned by district managers were that they could not provide training to all staff in their district because they haven't enough budget to support everyone. Staff who are associated with donor projects are more likely to go to workshops. On the other hand, some extension staff attend training courses that are not directly related to their jobs (ie poor or misguided selection of participants). If workshops are held over a short time and have lots of written text, some participants find it difficult to follow, as illustrated by the following quotes:

"...the facilitators spoke very fast and without handouts to provide us, so I can't follow the text...the facilitator lacked communication skills." District Staff (4);

"..if facilitators in the workshop lack experience and participants have different technical knowledge, then the workshops are unlikely to be successful." Project Manager (1)

On the job learning. On the job learning was considered equally important to workshop training by most respondents. The advantages mentioned by project managers were that it develops good relationships between staff and farmers and extension staff can stimulate farmers to participate in the project. Extension staff gain knowledge, skills or abilities, experience and confidence. The district extension workers understand very clearly what farmers need. For example:

"..the results of this learning process indicates that district extension workers were able to identify the problems and opportunities in farming systems. They improved their technical and extension knowledge, so they can help their project to achieve the goals." (Project Manager 8)

"..working directly with farmers in the field can help my district livestock extension staff gain skills, ability and confidence more than another methods because they share ideas and experience with model and interested farmers." (District Manager 1)

District staff talked at length about their experiences in the field including how they introduced new management concepts to farmers and how they built relationships with farmers. District staff (17) claimed that: "... my fieldwork has made interested farmers believe more in me...I have become more confident (about 95%), for introducing about planting forages."

The disadvantages of relying totally with on the job learning are that some district staff lack theoretical knowledge and experience in extension methodology for working with target farmers. For example, they can't respond and give advice to farmers when farmers ask questions. District Manager (2) said that:

"...some time my staff ask me to help in problem solving. So I went to villagers and helped my staff to explain very clear to farmers so they understand about the animal feed and feeding, animal health such as de-worming parasites and vaccination."

"....I believe that some of my district livestock extension staff have the technical knowledge, but they lack extension skills and techniques in working with farmers. They do not know how to transferring knowledge to target groups." (District Manager 10)

Cross visits and study tours. Most interviewees agreed that cross visits and study tours were useful for capacity building where they had used this method in their projects. Project manager (2) thought that; "...cross visits stimulate the learning process between experienced and younger extension staff and between government and NGO staff." In addition, cross visits not only give opportunities to staff to meet each other but also allow farmers to learn together in the field. For example, everyone can see how to cut and carry forage, fatten cattle and using dry stylo mix for animal feed. Project Manager (3) described how;

"New extension staff can learn how to organise cross visits: prepare the host farmers, activities, asking questions, giving advice and learning other techniques of working with farmers as well as providing feedback from those cross visits."

District managers and staff had similar comments but were able to talk about what they had learnt from study tours and cross visits. District Manager (3) illustrated that after he and some of his district livestock extension staff came back from a study tour to Vietnam, he had more ideas which he exchanged with Vietnamese farmers about planting forage for fattening cattle in pens. On the other hand, 3 project managers stated that cross visits cost a lot of money and can be difficult to organise. Some interviewees claimed that "visitors thought that the cross visit was for tourism or fun (not for learning)".

Staff meetings. All project managers and two thirds of all district level staff stated that staff meetings are valuable for capacity building of extension staff, because it allows staff to share experiences, solve problems in the field and make plans. The timing of meetings varied from monthly to three monthly to every six months. According to District Manager (6) all his staff come together every month at the district agriculture office. Managers update staff on the latest government policy and urgent issues. Staff then report on their work progress and outcomes including any issues they have faced from their fieldwork. Participants discuss and give feedback to each other. As he explained; "...monthly meetings are a learning process between staff from different specialities." The advantages of holding meetings are that it can resolve administration, technical and other problems quickly.

However, according to other district managers, attending monthly meeting cannot stimulate all staff involved because some staff are too shy to give recommendations or feedback to each other. Some provinces have only one district in a project, so there is no opportunity to share information. Other limitations occur when district managers are too busy to meet or staff are absent due to heavy workloads. The disadvantages of staff meetings according to some interviewees are that they use up a lot of money and time. Quarterly meetings have an advantage in this respect over monthly meetings, and it gives district staff more time to conduct their activities so they have progress reports to share. However, three monthly meetings can be a long time to wait if district staff experience serious problems that need peer discussion.

Mentoring. Mentors are people who have more experience in livestock production and extension methodology. They can be national staff, district managers, or provincial and senior district staff. Mentoring involves passing on skills, attitudes and knowledge from experienced staff to newer extension workers. As a capacity building approach, mentoring was mentioned by 30 interviewees with a higher proportion of program managers than district managers or staff. Project manager (1) was of the opinion that mentors were crucial in the first year of project implementation; "...in the first year of implementing the mentors are very important and necessary to help the newer district livestock extension staff." Mentors helped new district extension staff to conduct the livestock problem diagnosis (a general PD and a specific PD), how to plant forages and demonstrate to farmers and how to use forage to feed animals.

Mentoring or coaching is particularly important for building the capacity of volunteer or contract staff who have even less experience with forage technologies and extension methodology. District manager (8) explained his policy to develop new district staff by mixing teams of older and younger staff, and men with women. District manager (2) followed the same approach "... I never let my new volunteer and contract staff go to work in a village without a leader and unaccompanied ...because they have not enough experience."

For the district officers interviewed, the benefits from being mentored were gaining knowledge and having ready access to someone for advice. One district officer (10) mentioned that:

"...I think mentoring is a useful method for me because the mentors have more experience and their recommendations are linked with real situations in the field, they give advice very clearly, step by step. I can easily understand."

Another interviewee explained that:

"...mentoring saves time, it keeps me on track and opens my mind.... I gained knowledge and skills from mentors so I am able to work with farmers and I have more confidence than before." (District Staff 13)

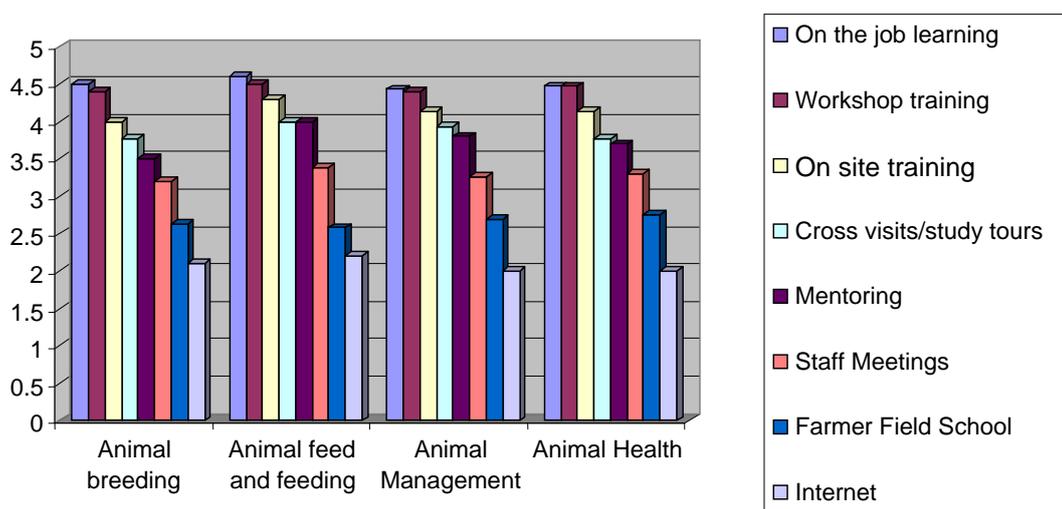
However, mentoring also has some weaknesses according to some project managers (1 and 11). Mentors may have many other responsibilities so they don't have enough time to follow up and give advice to staff. In addition, project manager (1) mentioned that:

"the mentors sometimes have personality conflicts with district extension staff. For example, there are some mentors who lack credibility and mentees do not listen and accept these mentor's advice."

"...it is difficult to contact with mentors to ask questions....communication is a problem because mentors and mentees are far away from each other." (District Staff 13)

Rating of methods according to key competency areas. Thirty district staff were asked to rate eight of the key capacity building methods according their relative effectiveness in building knowledge and skills in 40 technical and extension topics related to livestock production. Since we are unable to present all the survey results, Figure 2 shows the results of four general knowledge areas (e.g. animal feeding, animal health, animal management and animal breeding). The ratings are from 1-5, such as 1= not effective, 2= a little effective, 3= average effectiveness, 4= highly effective and 5= very highly effective

Figure 2. Relative effectiveness of capacity building methods for livestock competencies



The chart shows that staff place high value on field based activities to learn about the major aspects of livestock production and management, but also rate workshop training as highly effective in line with the interview results. There was very little difference between the general knowledge areas in terms of capacity building method influence as they all showed similar trends.

Factors influencing the effectiveness of capacity building outcomes

Dependence on project funding due to lack of government budget. Despite the increasing number of government extension staff working at the district level, the issue of ongoing lack of budget was raised by most interviewees. Government funds are inadequate to provide capacity building opportunities for staff, let alone salaries for volunteer or contract staff beyond projects or for daily extension activities. District manager (2) claimed that;

"...my district is located near the city and without any project to come to work with us, we lack opportunities to build the capacity for my staff...we lack funds to support new volunteer and contract staff."

Provincial and district level support and decision making. The influence of provincial and district managers on capacity building of extension staff can be profound according to those interviewed. District managers often select staff who were borne inside the district or province in the belief that they have local knowledge and will be more inclined to stay in the region. District staff who come from outside the province, are often overlooked for permanent positions

or for promotion to more senior jobs. The attitudes and managerial abilities of the district heads can motivate or inhibit staff capacity building and performance.

Opportunity to do formal study. District manager (10) explained that the Lao government tries to give opportunities for staff to upgrade their knowledge and skills by attending training courses, workshops and going to study in the higher education system for Bachelor and Master degree, particular staff who are working at district and province levels. However district manager (2) stated that few staff get scholarships because it depends on their age, English proficiency level, family and work commitments and selection by organisations and donors. District manager (9) mentioned that:

“... in my district we received some fund from the government but I used this fund for administration activities, as it was not enough to fund training or support for staff who want to study at Uni.”

Individual staff motivation. Some district livestock extension staff were described as very active in the field with farmers especially in remote areas. They helped farmers to improve animal feed for ruminants and monogastric animals. In working with women's groups, they introduced farmers to stylo legume to feed fresh, dried and as meal with local feed. District extension staff (18) spoke about his work:

“...the villages that I am responsible for, are far from my office so I need to walk for 3-4 hours to get there and stay overnight with villagers...”

Some staff go on to study for a high diploma degree in their provinces or study at University in Vientiane or Luang Prabang using their own funds. “...I use my own funds to study part time at Souphanouvong University for 5 years.” (District staff 18). District managers often support them by approving the use of office motorbikes. These staff have high determination to study because their families support them. In contrast, some staff cannot go to work and stay overnight in remote areas because they have too much work and responsibilities in the office or family commitments such as looking after children and sick family members.

Having good examples in the field. For capacity building to be effective, good field examples are needed to demonstrate the use of livestock technologies in different environments, and see the potential impacts. Demonstration plots and simple trials help staff and farmers to gain knowledge, skills and abilities in feed and feeding for animals especially for pigs.

“... I am using simple trials with farmer that address farmer problems and we get regular feedback from interested farmers. District staff also gained knowledge in formulation of feed using stylo as protein source to mix with local feed.” (District staff 18)

How capacity building of livestock extension staff can be strengthened and sustained.

Role of District Managers in building staff capacity. Many interviewees said that district managers should know what levels of staff they need and how to build their capacity over time. District managers from the northern most provinces suggested there should be a balance of male and female staff and from different ethnic groups, especially Akha and Muser ethnic groups.

“...We have already built Hmong and Khamu district extension workers, so building district livestock extension staff for Akha and Muser ethnic groups is also necessary because they are better facilitators than outside extension staff- they know the community and its members, speak local language and know the areas well. (Program Manager 8)

Some interviewees stated that Provincial and District managers should build district extension staff capacity in four areas; technical skills, project management, administration management and leadership. According to Program Manager (8), District Heads need to build younger staff to become trainers, then build the trainers to become a facilitators and build the facilitators to become leaders. “...the process of building the capacity for staff should be followed step-by-step.”

Program manager (9) said that district extension staff not only require technical knowledge and experience but also need to know the government policy and extension knowledge because district extension staff work closely with farmers at the KUMBAN (cluster village) level. Experienced extension workers need to upgrade technical knowledge but younger extension workers need to learn about extension knowledge (communication skills, facilitator skills and relationship skills). District managers and project managers need to increase the number of

extension staff so that there are at least two people per team. "If some one moves out a replacement needs to be found." (Program manager 2)

Build teamwork. According to both district managers and extension staff, teams needs to consist of senior and younger staff because both of them have advantages and disadvantages. For instance, senior staff have more experience in working with village authorities and village veterinary workers. They can teach younger staff who have just finished university and in turn the younger staff can tell senior staff about new approaches, information and new technology. Program manager (11) stated that "in general, if development teams mix senior and younger district extension staff in one team, it is better. They are able to address the limitation points because each person has personality, so they can learn from each other."

Increase co-operation between projects, donors and NGOs. Most projects in upland areas have livestock production and capacity building components so there is an opportunity for districts to increase co-operation between these projects and use their funds to support district staff. Most district managers stated that good collaboration and working with projects are the best ways to building the capacity of district extension staff.

"...I would like to invite donors, NGOs and projects come to join and work in my district more and more in order to build the capacity for my staff...district staff will have opportunities to learn new technologies and new approach." (District manager 3)

Giving opportunities to government district extension workers to cooperate with non-government extension staff and stakeholders who work in the same district forms good relationships and they are able to share ideas and exchange experience with each other. The main purpose is to scale out new technologies or impacts to interested farmers in those areas. The Government project should try to work and cooperate with partnerships such as NGOs. For example:

"Our project has technical and extension approaches as well as facilitators or good mentors, but NGOs have money and staff (government and contract)." (Program manager 2)

Provide opportunities for further study. Several interviewees mentioned that the district and project managers need to consider that some extension staff want to upgrade their knowledge and skills. Some staff have already been educated at middle diploma (MD), high diploma (HD), BSc and MSc levels. If they haven't got opportunity to study at University level perhaps they could attend a study tour in Laos or abroad to continue their learning.

Conclusions

Capacity building methods of greatest value to livestock extension projects in Laos included workshop training, on the job learning, staff meetings, mentoring and field trips. A few projects also used on-site training, farmer field schools, village learning activities, formal study and the internet. Workshops enabled extension staff to be introduced to theoretical aspects of livestock production and extension as well as project aims and requirements. However, workshop training is expensive and the quality of delivery depends on having good facilitators and experts. On the job learning was highly regarded as a complementary method to workshop training, as it enabled staff to put theory into practice and created mutual learning between extension staff and farmers. Cross visits and study tours also created learning in the field, particularly between extension staff as they compared livestock systems to their own districts. Staff meetings created opportunities to share experiences, solve problems and make plans. Mentoring was seen as crucial for new staff in their first year. However, workshops, field trips and meetings can be costly, raising the issue of sustainability of using these methods for government extension.

Hence, the first key learning from this research is that a combination of capacity building methods is recommended to spread the cost, optimise learning at strategic development phases and take advantage of the relative strengths and weaknesses of each method. The second key learning from analysis of the factors influencing effectiveness of capacity building is that district managers have a key role but are often overlooked as projects fail to engage them. Greater recognition and support for district managers is needed to enable them to build teamwork, motivate and mentor staff, and provide opportunities for ongoing capacity building. The third key learning is that capacity building methods can be strengthened by working in teams of different ages, partnering with non-government organisations and providing further study opportunities.

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