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A report prepared for

Asian Development Bank

UNIDAD DE INFORMACION Y DOCUMENTACION
23 JUN. 2004

Improving Livelihoods of Upland Farmers Using Participatory Approaches to Develop More Efficient Livestock Systems (RETA No. 6067)

Semi-Annual Report – July to December 2003

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Planting forages enables farmers to confine goats that were previously grazing native vegetation, resulting in reduced goat mortality, improved productivity and fewer disputes with neighbors over damage to their crops – all contributing to better livelihoods

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Summary

1. Project staff traveled extensively during the second half of 2003 to interact with national and site partners, including participation in national review and planning workshops, site visits, training and mentoring. This period of intensive contact has helped to develop a strong partnership between project staff and collaborators, and has ensured that all sites have clear objectives and strategies of how to achieve the stated project outputs.
2. Considerable progress has been made with developing integrated feeding systems at some project sites. One example is Daklak, Viet Nam, where project partners worked with farmer groups and farmer extension clubs to reduce the cost of cattle fattening by using planted forages and locally-available feed resources. Evaluation of feeding systems (Output 1) was combined with training of extension workers and farmers (Output 3) and extension workers and leaders of farmer extension clubs from other areas were included in field days and training to ensure widespread dissemination of the results (Output 2). Such well-integrated activities achieve good results both in improving feeding systems and disseminating improved systems to other farmers, and are used as an example for other project sites.
3. Dissemination of forage technologies has proceeded at all sites through field days and cross visits by new farmers (and extension workers) to experienced farmers who have successfully integrated forages into their farming system, and arrangements for supply of planting material to new areas. Analysis of the methods and tools used by local partners has continued and the information is being collated into developing improved dissemination methods. Several scenarios have been identified and are described in this report.
4. Project staff assisted with several training courses in Cambodia and Indonesia, and facilitated in-country review and planning workshops which proved to be an effective way of building the capacity of local collaborators to deliver project outputs. Combining well-targeted training sessions with review and planning of site activities ensures that training builds on current knowledge of collaborators and is highly relevant to them in carrying out their workplan. The management structure of the LLSP with the two regional research fellows spending considerable time mentoring and training project partners enables the project to adopt this type of programmed training, which directly supports site activities.
5. Project partners in Thailand organized and facilitated a practical training course on forage seed production for key farmers and extension workers from Viet Nam. This is a good example of the excellent partnership developed between project country partners. The course was very well organized and highly relevant for participants who rated the course as excellent. An important ingredient for success was the support by the Department of Livestock Development who supplied staff and facilities free of charge to the project.
6. Progress was made towards Output 4 with extensive discussions and the conduct of the first livestock marketing study in Viet Nam. The study actively involved key stakeholder groups in the analysis of the production to consumption chain. The next step will be to work with stakeholder groups to identify feasible interventions that can improve the benefit from livestock production to smallholder farmers. The methodology and experience developed in Viet Nam will be used for similar studies at other LLSP sites.
7. In conclusion, project staff and partners have established an excellent working relationship and good progress was made towards achieving project outputs.

Background

8. The Asian Development Bank (ADB) funded project RETA No. 6067 – Improving Livelihoods of Upland Farmers Using Participatory Approaches to Develop More Efficient Livestock Systems, started in January 2003 for a period of three years. The project was given a short name by project participants and will be known as ‘Livelihood and Livestock Systems Project’ (LLSP). The overall goal of the LLSP is to contribute to reducing poverty in upland areas through increasing the welfare of men and women farmers and the resilience of the farming system (ADB¹, 2002). Participating countries are Cambodia, China, Indonesia, Lao PDR, Philippines, Thailand and Vietnam.

9. This LLSP follows the ADB-financed project RETA No. 5866 – Developing Sustainable Forage Technologies for Resource-Poor Farmers in Asia. The previous project developed forage technologies with smallholder farmers and demonstrated that adoption of forage technologies led to increased livestock production, reduced labor requirements for animal production, and improved soil and water conservation on small crop-livestock farms in the uplands. The LLSP will determine how these outputs contribute to more sustainable livelihoods and how they can be disseminated more widely. The project focuses on reducing poverty through increased and more efficient livestock production. The new project includes Cambodia and has a reduced level of activities in Lao PDR and Thailand.

10. The TA agreement between the Asian Development Bank (ADB) and the Executing Agency CIAT was signed on 7 January 2003.

11. An inception workshop was held at the Chinese Academy of Tropical Agricultural Science (CATAS), Hainan, P.R. China, from 26 to 31 January 2003 to formally commence project implementation.

Purpose and outputs

12. The **purpose** of the project is to:

1. improve the sustainable livelihood of small farmers in the uplands through intensification of crop-livestock systems, using farmer participatory approaches to improve and deliver forage and feed technologies; and
2. improve delivery mechanisms in participating DMCs for the dissemination of these technologies.

The **outputs** of the project will be:

1. integrated feeding systems for livestock, that optimize the use of improved and indigenous fodders and crop residues, and farm labor;
2. improved methods to develop forage feed systems and extend them to new farmers, optimizing the use of M&E for feedback to others in the community;
3. Increased capacity in DMCs, at different levels, to expand the use of improved forage and feed systems and respond to local needs;

¹ Asian Development Bank 2002. Proposed Technical Assistance for the Seventh Agriculture and Natural Resources Research at International Agricultural Research Centers. ADB, TAR:Res 36472, Manila, Philippines.

4. comparison of development opportunities, and market and logistic constraints, for intensification of smallholder livestock systems across sites in five countries;
5. improved regional interaction and linkages with national and donor funded development projects that ensure synergistic and multiplier effects.

13. The executing agency of the LLSP is the Centro Internacional de Agricultura Tropical (CIAT), a Future Harvest Center (www.futureharvest.org). The DMCs implementing agencies in participating countries are:

Cambodia	National Animal Health and Production Investigation Centre, Department of Animal Health and Production, Phnom Penh.
China	Chinese Academy of Tropical Agricultural Science (CATAS), Danzhou, Hainan.
Indonesia	Livestock Services of East Kalimantan, Samarinda, East Kalimantan, and Directorate General of Livestock Services, Ministry of Agriculture, Jakarta.
Lao PDR	National Agriculture and Forestry Research Institute (NAFRI), Vientiane.
Philippines	Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), Los Baños, Laguna.
Thailand	Department of Livestock Development, Ministry of Agriculture and Cooperatives, Bangkok.
Vietnam	National Institute of Animal Husbandry (NIAH), Ministry of Agriculture and Rural Development(MARD), Hanoi.

Progress towards Project Objectives

Project management

14. The management structure put in place during the first half of 2003 has worked well and communication, coordination and reporting procedures are working well. LLSP staff member met for a management meeting from 21 – 26 July 2003 to discuss the project strategy, implementation arrangements and responsibilities, and develop work and action plans for the remainder of 2003. Each staff member has taken primary responsibility for liaison with various country partners, project outputs and administrative tasks. These are detailed in Table 1.

15. All staff traveled extensively during the second half of 2003 to assist country partners with implementation of planned activities, trainings and develop a strong project community. A list of travel, meetings and workshops is attached in Appendix 1 and detailed reports of visits and workshops are attached in Appendix 2.

Table 1: Division of primary responsibilities

Staff	Primary responsibility
Ms. Jindra Samson	<ul style="list-style-type: none"> – Coordinate the development of methodology for Output 4 "Identify market and logistic constraints and opportunities for intensifying smallholder livestock systems", including capacity building needs relating to output 4. – Develop and integrate an M&E plan and impact assessment into project activities – Edit and produce the project internal newsletter "LLSP Connections"
Ms. Dea Bonilla	<ul style="list-style-type: none"> – Manage the budget and financial transactions of the LLSP. – Prepare the financial statements for ADB. – Layout, production and distribution of reports and proceedings published by the project. – Liaise with IRRI and CIAT on all administrative and financial matters.
Mr. Phonepaseuth Phengsavanh	<ul style="list-style-type: none"> – Coordinate LLSP activities in Cambodia, Lao PDR, Thailand and Viet Nam – Support project partners and build their capacity to develop and deliver improved livestock systems through formal and informal training and mentoring – Take a lead role in developing output 1 "Integrated feeding systems for livestock".
Mr. Francisco Gabunada	<ul style="list-style-type: none"> – Coordinate LLSP activities in Indonesia, Philippines and P.R. China. – Support project partners and build their capacity to develop and deliver improved livestock systems through formal and informal training and mentoring. – Take a lead role in developing output 2 "Improved methods to develop forage feed systems and dissemination".
Dr. Werner Stür	<ul style="list-style-type: none"> – Provide leadership to staff and project partners, engendering a creative environment for team work and productive partnerships with LLSP partners. – Support, guide and mentor LLSP partners and staff to ensure that project outputs are achieved. – Collaborate with CIAT, ILRI and other relevant CGIAR Centers, partner government and development agencies and projects to ensure synergistic and multiplier effects. – Liaise and report to ADB.

Output 1: Integrated feeding systems for livestock that optimize the use of improved and indigenous fodders and crop residues, and farm labor

16. Considerable progress has been made with developing integrated feeding systems at some sites. One such example is Daklak, Viet Nam, where LLSP partners worked with farmers to improve feeding systems for cattle fattening. The first step was to conduct a participatory diagnosis with interested farmers to discuss and analyze the current practice of producing and fattening cattle. Farmers either grazed their animals in natural grasslands (extensive production system) or fattened cattle in pens using purchased concentrates (intensive production system). Farmers grazing natural grasslands identified low liveweight gain as the most important constraint with many farmers reporting financial losses when selling animals because the cattle are too thin and fetch a low price. Farmers fattening cattle using purchased feeds or concentrates reported high liveweight gains but low profits because of the high price of concentrates. The high price of concentrates is often reported as a major

constraint to increasing animal productivity; one example is the smallholder dairy industry in Thailand which is heavily dependent on purchased feed. There, the Department of Livestock Development is promoting legume hay, silage and high-quality forages as possible substitutes to purchased concentrates. In Daklak, many farmers already have access to planted forages introduced during the FSP and tree legumes such as *Leucaena leucocephala* and *Gliricidia sepium* which were planted as shade trees in coffee plantations. Farmers were not using tree legumes to any large extent. The farmers agreed to select a small group of 5 farmers who live close together and would evaluate different feeding options with the LLSP. A simple experiment was designed together with the farmers using 3 feed rations representing traditional practice, purchased feeds and a mixture of grasses and legumes and locally-available crop by-products (Table 2).

Table 2. Feed rations for farmer experimentation in Daklak

Feed ration 1	- Traditional grazing
Feed ration 2	- Cut mixed forages (1/3 legumes and 2/3 grasses) fed <i>ad libitum</i> - 1 kg/day/animal of urea-treated rice straw (3% urea and 10% molasses) - 1 kg/day/animal of maize meal
Feed ration 3	- Grasses fed <i>ad libitum</i> - Purchased concentrates (15% protein) fed <i>ad libitum</i>

17. The 5 farmers conducted the 3-month experiment, supported by LLSP partners with training in preparation of feed rations, measuring liveweight gain and evaluating the experiment. Other farmers in the area were included in training and all farmers met once a month for measuring liveweight gain and discussing the results. At the end of 3 months, representatives from other villages and districts (Heads of extension clubs) were also invited to evaluate the results of the experiment (Table 3). Farmers were impressed with the high liveweight gain obtained by using locally available legumes, rice straw and maize meal, and many farmers have since started to use this feed ration. Heads of extension clubs repeated the experiment with farmers in other areas (with some training support from the LLSP) and by the end of 2003 more than 50 farmers were evaluating different feed rations. The process of farmer experimentation, training and sharing of information was videoed and is being used for dissemination purposes. Details of the activities will be reported in the proceedings of the 2004 Annual Meeting.

Table 3. Results of farmer experimentation in Daklak

	Liveweight gain (kg/animal/month)	Expenses including labor and feed (VND/month/animal)	Profit (VND/month/animal)
Feed ration 1 (tradition)	9.8	150,000	26,760
Feed ration 2 (legumes++)	20.5	128,750	282,650
Feed ration 3 (purchased)	27.5	362,240	188,360

18. Obviously, the data collected in the farmer experimentation is not accurate; however, accuracy was not the purpose of the evaluation. The main objective was farmer (and technician) learning and generating farmers' interest in developing improved feeding systems, and this has been achieved. The inclusion of heads of extension clubs and other key farmers in the discussions, training and evaluation of the farmer experiments was an important step in spreading the results and technologies to other farmers (Output 2). Similarly, building the

capacity of local technicians and farmers (Output 3) was essential for the success of the work in Daklak. It also shows the importance of working in a participatory framework to ensure that the project works on issues important to farmers, builds on local knowledge and practice, and maximizes farmer learning. Farmers requested the LLSP to assist them with evaluating more feed rations, particularly for fattening of cattle during the dry season when grass and other natural feed resources are not readily available. Again, the principle will be to use locally-available feed resources and planting of grasses and legumes to maximize the benefit to smallholder farmers. The process of working with farmers in Daklak is being used to help partners at sites in other countries to improve feeding systems and livestock production.

19. Another example of developing integrated feed systems was the use of planted grasses (mainly *Panicum maximum* 'Simuang') and naturally-occurring vegetation and tree leaves for feeding fish in Tuyen Quang, northern Viet Nam. In Cambodia, the LLSP assisted project partners with establishing forage evaluation and multiplication plots with farmers in 3 villages which will be the basis for improving feed systems for goat production. In Indonesia, project partners in East Kalimantan selected 3 sites (Sepaku, Samboja and Makroman) for improving integrated feeding systems for cattle fattening, cow-calf production and mixed livestock production systems. They surveyed the livestock production systems, identified interested farmer groups, conducted participatory diagnoses with these groups and discussed improvement options. Key farmers from these farmer groups were invited for a cross visit to Sepaku to see various improvement options in practice. A similar process was followed in the Philippines and P.R. China. In Lao PDR, the LLSP assisted local partners in Savannakhet with a survey of goat production, selection of villages for working with farmers to develop intensive goat production, participatory diagnosis in 3 villages and planting of *Gliricidia sepium* as a high-quality feed resource. All countries have identified the main livestock production systems at LLSP sites, selected sites and farmer groups and are at various stages of identifying constraints and opportunities, and working with farmer groups to test improvement options. Details of progress at each site will be presented during the 2004 Annual Review in February and included in the proceedings of the meeting.

Output 2: Improved methods to develop forage feed systems and extend them to new farmers, optimizing the use of M&E for feedback to others in the community

20. Analysis of the process of participatory technology development and dissemination methods and tools used by LLSP partners continued. Methods clearly vary between sites and countries, with factors such as capacity and enthusiasm of the extension worker, institutional support (and 'culture') for participatory approaches, distance to 'successful forage-feed system examples' and the need for capacity building emerging as important determinants of success. Three scenarios are emerging:

A) Dissemination within villages or districts: The simplest form of dissemination is by assimilation where farmers learn from other farmers nearby who are already at an advanced level of developing forage and feed technologies. This is most successful when farmers are already experiencing significant positive impacts of improve livestock feeding systems and where there are enthusiastic, well-trained extension workers in the area who actively

facilitate dissemination through field days, cross visits and farmer-to-farmer learning.

B) Dissemination to new villages or districts in the same geographical region (e.g. same province): This requires an additional process of 1) identifying new areas with high potential, 2) winning institutional and political support for working in the new villages or district, 3) training of extension workers in the new area in feed and livestock technologies and in participatory approaches, and 4) establishing forage multiplication sites in the new area to ensure access to planting materials. This is relatively simple if successful farmer examples of improved feed and livestock technologies are available in nearby districts and cross visits, field days and trainings can be arranged in the successful areas. Once a small number of farmers have started to evaluate improvement options and are experiencing benefits then similar methods and processes as described in (A) can be applied. Other options to create awareness of successful technologies are the use of radio, television and printed media.

C) Dissemination to new villages or districts in a different geographical region: Added challenges are that 1) there are no easily accessible examples of successful feed and livestock technologies nor trained extension workers or farmers nearby, and 2) involvement at the national level is likely to be required for selection of new areas and winning of institutional support. In this situation, many of the most successful methods and tools such as cross visits and farmer-to-farmer extension are not immediately available and new examples (and capacity) need to be developed before dissemination can be successful. The process for developing successful examples has been described in the booklet "Developing agricultural solutions with smallholder farmers: How to get started with participatory approaches." The advantage for the LLSP is that, with the exception of Cambodia, well-trained extension workers and farmers are already available within the same country who can be involved in training and for a small number of well-targeted cross visits.

21. Indonesia, Philippines, P.R. China and Viet Nam are all disseminating (or scaling out) forage and feed technologies from existing, successful sites (situation A) and have selected new sites in other districts within the same province for dissemination (Situation B). Indonesia has also selected 4 new sites in different provinces for dissemination (Situation C). Cambodia, being a new country without successful examples, is concentrating firstly on developing successful examples of feed technologies with a relatively small number of farmers and villages. Only when some farmers are starting to experience benefits from improved forage and feed technologies, will large-scale dissemination commence. Similarly, our Lao partners operating in the southern part of Lao PDR are concentrating on developing forage technologies with farmers involved in goat production. The process, results and experiences from dissemination in these situations will be analyzed and contribute to the development of improved methods for dissemination in a variety of situations. Details on dissemination activities in 2003 will be included in the proceedings of the 2004 Annual Review.

Output 3: Increased capacity in DMCs, at different levels, to expand the use of improved forage and feed systems, and respond to local needs

22. Project staff conducted three training courses for project partners in Cambodia and Indonesia (Table 2). In addition, review and planning workshops were held in P.R. China, Indonesia, and the Philippines during the reporting period. These types of review and planning workshops are excellent training events where project staff and country coordinators facilitate sharing of experiences, review activities, plan future activities and provide relevant training to enable our collaborators to carry out the next step in their program. Building the capacity of project partners to be able to work with farmers to improve forage-feed systems and disseminate these systems to other farmers requires skills and knowledge that are difficult to learn in formal training courses. We found that the most effective way of building the capacity of site partners is to keep the formal part of training course short (review experiences, discuss options for improvement, present additional options/knowledge/skills), then go into the field and demonstrate new skills, ask participants to practice with other farmer groups, get back together and review experiences and discuss difficulties and ways of overcoming these difficulties. Participants then return to their own sites and apply their new skills. A follow-up training is then planned which reviews progress and takes site partners to the next level. This type of programmed, on-the-job training is well integrated into the work of partners and has produced good results and achieved progress at project sites.

23. Another highly effective strategy for building capacity of our country partners is mentoring by experienced LLSP staff. During site visits, LLSP staff travel and work with national and site coordinators to build their capacity to provide mentoring to local partners. This type of intensive on-the-job training is only possible because of the management structure of the LLSP with the two research fellows being able to provide full-time mentoring and training of partners.

Table 2: List of training courses / workshops

Country	Topics	Period	Trainers / Translators	Participants
Cambodia	Forage selection and establishment	1 – 3 Sep 2003	Seuth	13 district and provincial staff of the Office of Animal Health and Production, Kampong Cham province
Indonesia	Animal nutrition and experimentation with farmers	23 – 26 Sep 2003	F. Gabunada, M. Tuhulele, Ibrahim, Yacob	14 district extension workers involved in the LLSP in East Kalimantan
Cambodia	Participatory diagnosis and evaluation of forage technologies	11 – 14 Nov 2003	Seuth, Jindra, Sorn San	12 district and provincial staff of the Office of Animal Health and Production in Kampong Cham province (8 of these participated in the earlier course on forage selection and establishment)

24. Country partners in China conducted two training course for 50 farmers and 20 extension workers at CATAS. In Vietnam, site partners in Daklak and Tuyen Quang held training courses for technicians, extension workers and key farmers, who in turn held training

courses for a large number of farmers. Training of farmers in forage establishment, management and utilization was carried out by all site partners as part of their regular farmer groups meetings and extension activities.

25. The LLSP country coordinators in Thailand arranged a forage seed production training course for 6 technicians and 4 key farmers from Viet Nam (a summary report is attached in Appendix 3). Mr. Le Hoa Binh, the Vietnamese country coordinator of the LLSP accompanied the group as translator. The course was supported by the Animal Nutrition Division, Department of Livestock Development (DLD) with DLD providing trainers and facilities free of charge and was held at Mukdahan Animal Nutrition Development Station, Thailand, from 6 - 12 October 2003. The course was based on "learning by doing" with participants practicing planting, seed crop management, seed harvesting, drying, cleaning, seed storage and seed quality testing. The course included visits to farmer seed producers (Guinea grass) in Sakon Nakorn and Mukdahan provinces. Feedback from participants was very favorable and has already resulted in planting of seed crops in Daklak and Tuyen Quang. Our Vietnamese partners have requested that DLD send staff member to Viet Nam to help with implementation of seed production in 2004.

26. Four LLSP partners received training in Agricultural English at the International English Language Training Center in Vientiane, Lao PDR, from 13 October to 21 November 2003. Participants were Mr. Tang Jun (CATAS, P.R. China), Mrs. Vu Hai Yen (Site coordinator, Tuyen Quang, Vietnam), Mr. Yacob Pangendongan (National coordinator, Livestock Services of East Kalimantan, Indonesia) and Mr. Bounthavone Kounnavongsa (National coordinator, NAFRI, Lao PDR). All participants benefited greatly from attending this language course and the course has already resulted in improved communication with LLSP staff. Taking advantage of the presence of the four LLSP partners in Lao PDR, Mr. P. Pengsavanh arrange a 1-week visit to FLSP sites in northern Lao PDR to see FLSP sites and interact with FLSP collaborators to discuss technology development and the process of working with farmers in the FLSP.

Output 4: Comparison of development opportunities, and market and logistic constraints, for intensification of smallholder livestock systems across sites in five countries

27. Following the participation of five LLSP members in the Southeast Asian Course on "Sustainable agro-enterprise development in a micro-regional context" in Viet Nam in early 2003, a first market study was conducted in Daklak, Viet Nam. The study was carried out from 9-18 December 2004 and aimed to provide a better understanding of the livestock production to market chain at project sites in Daklak.

28. The study commenced with a series of meetings with the key stakeholders involved in livestock production and marketing in Daklak. These included (1) authorities such as agricultural planners, credit providers, extension services and provincial and local government representatives, (2) livestock farmers from project sites, and (3) traders. Each group was met separately to keep participant numbers for each meeting to a manageable size, avoid potential conflicts between stakeholders and allow focused discussion. The meetings were held over 3 days with each meeting lasting half a day with wrap-up sessions and summaries following each meeting. The meetings were facilitated in an informal way

with open-ended and probing questions, and the use of a range of PRA tools. Farmer and trader groups identified a range of constraints to production and marketing with considerable differences in perception between the two groups. For example, farmers felt that traders were paying low prices for their animals while traders explained that farmers often try to sell old, thin and sick animals which have a low value. They are willing to pay high prices for good-quality animals and reasonable prices for thin animals as long as they look like they can be fattened before marketing or sold on to other farmers. Farmers tend to have few options on how to sell their cattle since there are no local markets and transport for small number of cattle to the provincial markets is too expensive. Local traders buy individual cattle from farmers for some time and only transport them once they have a large number of animals assembled. Farmers have limited knowledge about current market prices and the sale price is based on weight estimates by the trader. These are just some of the findings of the study; a more complete summary is attached in the trip report by J. Samson and P. Phengsavanh (Appendix 2) and a copy of the full report of the market study is available on request.

29. The next step in the market study is follow-up meetings with stakeholders in Daklak to discuss possible interventions to develop options for interventions that will help to exploit market opportunities and solve constraints that hinder small farmers from achieving higher benefits from livestock production. The experiences and methods developed in Daklak will be used as a basis for similar studies at project sites in other countries.

Output 5: Improved regional interaction and linkages with national and donor funded development projects that ensure synergistic and multiplier effects

30. Project staff and partners interacted widely with related research and development projects in several countries:

- The project facilitated a cross visit for 17 FLSP collaborators from Lao PDR (provincial, district staff and heads of districts and agricultural offices) to Tuyen Quang from 19-22 August 2003. The team visited several LLSP sites to learn and exchange experiences about forage technology development, methodologies used, steps in the development and impact of forages on livelihood of farmers at the visited sites.
- LLSP staff F. Gabunada and P. Phengsavanh assisted the Cambodian-Australian Agricultural Extension Project in Battambang, Cambodia with training of extension staff in participatory approaches and forage technologies and participated in field visits from 25-29 August.
- F. Gabunada participated in a ILRI workshop which summarized the results of the Philippine component of the ILRI Project "Sustainable Parasite Control" from 13-17 October and W. Stür (in his capacity as LLSP coordinator) assisted ILRI with a workshop reviewing the achievements of the same project in Manila from 2-7 November 2003.
- W. Stür participated in the Crawford Fund Conference "The Livestock Revolution – A pathway from poverty?" in Canberra, Australia, on 13 August 2003. The conference was attended by a large range of stakeholders in agricultural research and development from Australia, CIAT and ILRI. Carlos Sere, the DG of ILRI, was the keynote speaker at the conference. W. Stür, D. Gray and C. Sere discussed

current and potential future collaboration between CIAT and ILRI in Southeast Asia.

- F. Gabunada represented the LLSP at the CIAT Annual Review and Planning Meetings in Cali, Colombia, from 21 November to 8 December 2004. These meetings are an important networking opportunity and give the project a chance to publicize the activities and results of the project to the CIAT community.

31. The LLSP and the ILRI "Sustainable Parasite Control" Projects are collaborating closely in Cambodia by working together with the same country coordinator and at common sites. The LLSP provides expertise in participatory approaches and feed technologies while ILRI supplies expertise on control and management of parasites and other animal diseases. The objectives are to improve farmers' livelihood by improving returns from goat production in the project areas. ILRI is investigating options for expanding its activity in Lao PDR and work together with the project at the LLSP project site in Savannakhet.

32. Two issues of the project internal, email-based newsletter "LLSP Connections" have been distributed during the reporting period. The aim of this informal newsletter is to keep all project partners informed of what is going on in the project. To date, contributions from partner countries are still not forthcoming easily and the newsletter is 'driven' by LLSP staff. Nevertheless, feedback from partners is that they appreciate the newsletter as a means of staying informed of progress at other sites. More effort will need to be put into obtaining contributions from country partners. The latest issue of the SEAFRAD Newsletter, the vehicle for disseminating and sharing project results with the wider research and development community, was mailed in June 2003. The next and final issue to be edited and produced by our Chinese partners at CATAS is due in early 2004. The question of editorship will need to be decided at the next Annual Regional Meeting to be held in Viet Nam in February 2004.

Appendices

Appendix 1: Travel by project staff Jul – Dec 2003

Period	Traveler	Countries visited	Purpose	Report on Page
4 – 11 July	P. Phengsavanh	Lao PDR	Survey of potential site for goat production in Savannakhet	18
12 – 17 July	F. Gabunada and W. Stür	P.R. China	Meeting with national implementation agency to finalize LoU, strategy and workplans	20
15 – 21 July	P. Phengsavanh	Cambodia	Assist with establishment of forage evaluation and multiplication plots in 3 villages	24
21 – 26 July	W. Stür, P. Phengsavanh, and F. Gabunada	Philippines	Management meeting to discuss project strategy, implementation arrangements, responsibilities and workplans	26
27 Jul – 8 Aug	W. Stür and F. Gabunada	Indonesia	Planning workshop with field workers in East Kalimantan and review of workplans	27
13 – 14 Aug	W. Stür	Australia	Participate in the Crawford Fund Conference "The Livestock Revolution – A pathway from poverty?" in Canberra	34
15 Aug – 5 Sep	P. Phengsavanh and F. Gabunada	Vietnam and Cambodia	Facilitate a cross-visit of FLSP partners from Laos to LLSP sites in Tuyen Quang, training of extension staff and follow-up in Cambodia	36
19 Sep – 2 Oct	F. Gabunada	Indonesia	Assist with training of extension workers in East Kalimantan and selection of new dissemination sites in Central and South Kalimantan	46
5 – 8 Oct	W. Stür	Lao PDR	Liaison visit to discuss collaboration with other CIAT projects such as the FLSP and SADU at the CIAT regional office (W. Stür was already in Laos on separate assignment)	53
13 – 17 Oct	F. Gabunada	PCARRD, Calamba, Philippines	Participated in a workshop on summarizing the results of the Philippine component of the ILRI Project "Sustainable Parasite Control"	55
29 Oct – 3 Nov	J. Samson, P. Phengsavanh, and J. Connell	Vietnam	Attend the SADU field visit and the planning meeting for the Daklak Market study	57

Period	Traveler	Countries visited	Purpose	Report on Page
2 – 15 Nov	W. Stür	Philippines and Thailand	Participate in an ILRI Workshop on reviewing the IFAD-funded project on “Sustainable Parasite Control” in Manila; attend a LLSP planning meeting in Los Baños and participate in a round-table discussion on CIAT-ILRI collaboration in Southeast Asia in Bangkok.	66
9 – 19 Nov	J. Samson and P. Phengsavanh	Cambodia	Facilitate training of extension workers on Participatory Research in Kampong Cham Province, Cambodia	67
21 Nov – 8 Dec	F. Gabunada	Colombia	Participate in the 2004 CIAT Annual Review and Planning Meeting for Asia	72
22 – 29 Nov	P. Phengsavanh	Lao PDR	Facilitate a cross-visit and experience-sharing of LLSP staff from Indonesia, China and Vietnam to FLSP sites in Luang Phabang	74
2 – 9 Dec	P. Phengsavanh	Lao PDR	Participatory diagnosis with national and local partners in three villages selected for goat production improvements in Savannakhet	77
9 – 18 Dec	J. Samson and P. Phengsavanh	Vietnam	Conduct the first market study with site partners in Daklak	80
14 - 18 Dec	F. Gabunada	Cagayan de Oro, Philippines	Review and planning workshop of LLSP partners in the Philippines	86

Appendix 2: Trip reports by project staff

Trip report to Savannakhet, Lao PDR 4-11 Jul 2003

Phonepaseuth Phengsavanh (LLSP) and Bounthavone Kounavongsa (National coordinator)

Objectives

- Meet with collaborators in Savannakhet and conducting survey on goat production in the province
- Identify goat production systems in the province, and find the problems and opportunities for development in each production systems.

People met

Mr. Thien	Head of the Provincial Livestock and Fisheries Section of Savannakhet.
Mr Bounmy Phewankham	Head of Livestock production unit

Itinerary

4 Jul	Vientiane – Savannakhet by car
5-6 Jul	Phalan and Adsphangthong districts
7-8 Jul	Outhoumphone and Saiboury districts
9-10 Jul	Khanthabouly
11 Jul	Meet with director of Provincial livestock and fishery section (PLFS) of Savannakhet province and depart to Vientiane.

Summary

(1) General information

We visited 11 villages in five districts of Savannakhet province together with staffs from Provincial Livestock and Fisheries office. These are the main goat production areas of the province. Goats generally graze freely all year round, except near to the town and in more intensive rice production areas where goats are tethered or confined in pens. The main feed for the goats are native grasses and tree leaves that occur naturally in the forest and communal areas. Goat ownership varies from the village to village and family to family with ownership ranging from 2 to more than thirty heads for some families. According to the information gained during discussion with farmers, in general, there are no major problems (neither feed or disease) with goat production, however, we were able to meet only with few farmers in the villages. The reproductive performance is high and kid production is the main reason for farmers to keep goats. However, growth rates of goats seems low.

(2) The main findings

1. In the meeting with the Head of the Provincial Livestock and Fisheries Service (PLFS), he agreed on the overall work plan, but suggested that activities should focus on the

areas of National road No. 9 linking Vietnam to Thailand, where there is a big market for goats. PLFS will assign one staff to be the local collaborator for the LLSP.

2. There are two main goat production systems in the surveyed areas:
 - a. Free grazing all year round: This system is more practice in the areas of extensive agricultural production (Phalan, Adsphangthong, Outhoumphone and Xaybouly districts). Goats are left to graze freely in the forest and other communal areas that are available near villages. Pens are not so common; goats stay in the shed or under the houses. Few farmers said that during the heavy rain period goats generally stay near the house, so they have to cut some feed (mainly tree leaves) for the goats.
 - b. Another system is the tethering system that is mostly practiced in areas with intensive rice production in Khanthabouly district (2 crops per year) and near to the town. As a result of expansion of the town and increased population, the grazing area is becoming more limited.
3. The productivity, especially the growth rate of the goats in both systems are quite low. The male goats will take 1 year or longer to reach the market preferred weight of 18-20 kg. According to information gained from discussion with farmers the number of kids per kidding is best in the more extensive production systems, because some of them can often get three kids per kidding. This may also be related to the fact that goats can select their own feed in this extensive grazing areas and therefore select a high-quality diet. Conversely, goats in pens are dependent on the farmer for supplying feed and have little choice in what they eat.

(3) Suggested next steps at Savannakhet

- Establishing *Gliricidia sepium* fodder banks with farmers
 - Village and farmer selection (at the end of July): Bounthavone (national coordinator) will come back to work with provincial and district staff to select villages and farmers for planting gliricidia.
 - Planting time: About 800 gliricidia seedlings will be transported from Livestock Research Center, where they are currently being established in polybags, to Savannakhet and plant in the fields of selected farmers.
- Monitoring:
 - Bounthavone as National coordinator will visit the sites in September and October in order to monitor and advise some technical issue to farmers.
 - Provincial and district staffs need to visit more often to visit the plots and see if are there more potential in the area for improving goat production.
- December / January: Problem diagnosis and identification of farmer focus groups (including training)
- Work with focus groups from now on (Preparation of the fodder seedlings, feeding systems and other)

Trip report to CATAS, Hainan, PRC, 12-17 July 2003

Francisco Gabunada and Werner Stür

Objectives

- Familiarisation with research conducted at CATAS over the last 3 years through meetings with collaborators and visiting field sites for forage technology development.
- Assist collaborators with development of a strategy for project implementation and workplan for 2003.

People met

Prof. Yi Kexian, Head, Tropical Pastures Program, CATAS, and national coordinator of LLSP in China

Mr. He Huaxuan, Mr. Zhou Hanlin, Mr. Tang Jun, Ms. Li Xuefong, Mr. Wang Jiang (CATAS staff members involved in LLSP)

Prof. Liu Guodao, Director, Institute for Tropical Crops and Pasture, CATAS.

Local collaborators and farmers at LLSP field sites.

Itinerary

13 Jul	Manila – Haikou, P.R.China and transfer to CATAS, Danzhou
14 Jul	Discussions at CATAS
15-16 Jul	Field visits to Wentou and Xinkai villages in Fulong, Baisha county; Zhaxi village, Xishui, Baisha county; Jiaba village, Zhizhong, Ledong county.
17 Jul	Final discussions in Haikou Haikou - Manila

Summary

The on-station forage researches conducted by CATAS were reviewed. Stylo 184 still showed considerable degree of anthracnose resistance and productivity. CATAS has carried out single plant selection within Stylo 184 which resulted in improved productivity. CATAS is currently conducting field experiments to examine the potential of composite anthracnose-resistant stylo varieties. This activity is expected to yield more impact in terms of improving anthracnose resistance.

CATAS has compared productivity of improved and natural pastures, as well as studies to compare palatability of King Grass, *Panicum maximum* and Stylo 184 to pigs and geese.

The on-farm work carried out by CATAS has been described in the report at the LLSP inception meeting. We visited four villages where CATAS worked during the FSP-2. These were all inhabited by Li ethnic minority which are regarded as the poorest communities in Hainan. Most of the farmers were using the forages (especially Stylo) for small animals like rabbits, pigs, geese, chicken and fish. Large ruminants and goats were raised in a traditional, extensive system based on grazing, with planted grasses reserved mainly for sick and lactating animals.

During the FSP-2, CATAS has innovated with a system of loaning rabbits to interested farmers who do not raise sufficient number of animals. The system has worked well and

served as stepping stone for farmers to learn how to manage forages as well as give them the opportunity to use the proceeds to buy larger animals.

Another interesting activity done by CATAS was facilitation of stylo seed production and marketing by a group of farmers. CATAS has facilitated the sale of 6 tons of seed in international market in 2002.

A major problem for CATAS with farmer participatory research is the difficulty of finding enthusiastic and effective local government partners. CATAS has tried to overcome this limitation by working with farmer leaders and informal contacts in the village. This practice needs to be developed further. One potential option is for CATAS to work with farmer focus groups based on livestock production systems.

The system where CATAS works is still in a stage where the mode in working with farmers is top-down. There is therefore a pressing need to get more of the participatory mode in working with farmers. CATAS has strong technical capability and would profit from developing the skills in enhancing farmer participation.

The workplan was discussed and revisions were agreed upon. For the focus sites, emphasis was on analysis of the production system and initiating evaluation of options to improve the production system. For the dissemination sites, secondary data gathering, participatory diagnosis and getting forages (and ways of integrating them into the farm) into the villages were the priorities identified.

Details of visit

1. Review of CATAS research

In the last three years, CATAS has continued on-station evaluation of *Stylosanthes guianensis* varieties with the aim of identifying an anthracnose-resistant variety. There is some urgency since most stylo planted in southern PRC is CIAT 184, a variety which is known to be potentially susceptible to this disease. The experiments at CATAS have shown that, so far, CIAT 184 has held up well despite some disease pressure and currently is the most productive variety available. Research has identified several other varieties which are more resistant to the disease but the yield of these varieties is somewhat lower than CIAT 184. CATAS has made a number of single-plant selections with superior growth from CIAT 184. While this results in improved productivity, resistance to anthracnose is unlikely to be improved by single-plant selections within CIAT 184. Currently, CATAS is conducting a field experiment which examines the potential of Dr. Grof's composite anthracnose-resistant stylo varieties. Other experiments conducted recently by CATAS on farms include intercropping in mango plantations, comparing productivity of improved with natural pastures, and palatability of King grass, *Panicum maximum* and Stylo 184 by pigs and geese. Pigs preferred King grass while geese preferred King grass and Stylo 184 over *P. maximum*.

On-farm work carried out by CATAS has been described in the report at the Hainan LLSP Inception meeting (see proceedings).

2. Field visits

We visited collaborating farmers in Wentou and Xinkai villages in Fulong, Baisha county; in Zhaxi village, Xishui, Baisha county; and Jiaba village, Zhizhong, Ledong county. In all

cases, families belonged to the Li ethnic minority group which is regarded as one of the poorest communities in Hainan. Farmers are feeding forages (stylo, King grass and *Panicum maximum*) for all kinds of animals. Small animals such as rabbits, pigs, geese, chicken and fish tend to be fed mainly stylo (usually *Stylosanthes guianensis* CIAT 184) while larger animals such as buffalo, cattle and goats are mainly fed grasses, with only a small amount of stylo. Most goats and large ruminants are raised in a traditional, extensive management system based on grazing. Planted forages are reserved for sick animals, females with recently born calves, for rainy days or when the farmer is too busy to take animals for grazing. We did not see cases where farmers use forages for fattening of buffalo, cattle or goats for the local market; nor for use as supplementary feed to improve productivity of animals.

One goat production system we saw consisted of 3-4 hours supervised grazing per day (no supplementary feed except salt), with animals confined in a closed animal shed for the rest of the day and night. Grazing was usually in the afternoon. Forages were used only on rainy days and for does with newly born kids (approx. 1 week). Reported reproductive performance was two births per year (usually twins). Liveweight gains were relatively low with goats reaching 20 kg at age 5-6 months. Market demand is high and farmers have no problems with selling animals at \$2/kg liveweight.

During FSP-2, CATAS tried to concentrate to work with the poorest farmers (both poor areas and poor farmers within villages) and encountered the problem that the poorest farmers have no or only few animals. These tend to be small animals like chicken and geese. CATAS overcame this limitation by providing rabbits to those farmers. This has been a great success which is due to good market demand for rabbits (also \$2/kg LW) and the rapid reproduction rate of rabbits. Several of the recipients have already sold many rabbits, in addition to home consumption and building up of a number of breeding females. One of the farmers we interviewed said that he will try to buy goats from the proceeds of selling rabbits. This is a good example how livestock is used as a "stepping stone" to higher income-generating activities and gradual building of wealth. Also rabbits are a good way of getting farmers used to managing and utilising forages as well as raising animals. A case study of this system should be worthwhile pursuing. However, one potentially problematic issue is the high degree of in-breeding. This issue requires urgent attention by CATAS.

In another village, CATAS facilitates international marketing of stylo seed produced by farmers. Six tons were sold in 2002. The system has provided excellent income for farmers.

CATAS has a major problem in finding enthusiastic and effective local partners to work with farmers at field sites. In most cases, there simply is no effective agricultural extension and livestock service; the role of government staff tends to be implementation of government programs (e.g. poverty alleviation programs) and enforcements of government regulations. CATAS has tried to overcome this limitation by working with farmer leaders and other informal contacts in most villages. One option for improving the effectiveness of CATAS staff is to work with farmer focus groups based on livestock production systems (e.g. goat production, rabbit raising, cattle production, etc.) and build the capacity of the leader of the group to act as 'facilitator'.

Wherever possible, CATAS links with local government and this is not always without problems. For example, in one village we visited the government implemented a goat a goat distribution which did not work out well. Farmers said that many goats died of disease. One clear issue was that farmers had not been consulted if they were really interested in receiving

goats and we found out that, if farmers could choose, they would like to plant more rubber trees as rubber provides good income. Hand-outs to poor communities are a major problem in Hainan. Government poverty alleviation programs tend to supply substantial assistance free of charge and without repayment. Farmers become reliant on hand-outs from the government, rather than being proactive in improving their livelihood.

The interactions between local government officials, CATAS staff and farmers, we observed, seemed to be still in the traditional top-down mode (we don't speak Chinese). It consisted mainly of teaching and telling farmers what to do rather than asking for and listening to farmers' ideas and suggestions. The implication is that we need to provide more on-site, practical training for collaborators to build their capacity to effectively interact with farmers. Collaborators seem to have strong technical knowledge but find it difficult to know what farmers feel so are "lecturing" rather than building on farmers' knowledge. These changes would not be expected to occur in an instant but a start has at least to be made.

The government seems to provide a lot of training for farmers in various subjects (e.g. animal health) but we were unable to judge the impact of these training events. One observation is that women seem do a lot of the work on farm but men are coming to meetings and trainings. What strategies can we devise to include women in our work?

Summary of training needs of CATAS team and local partners:

- Very strong on technical issues
- Training is required in appreciating farmers' knowledge and situation, and in communicating effectively with farmers
- Training is also required in recognising if farmers are truly interested / not interested in working with us (if farmers are not interested to working with us they will appear 'lazy')
- English language training of selected CATAS staff is urgently needed

3. Strategy and workplan development

The strategy developed during the Inception Meeting in January was reviewed. The objectives, outputs and potential activities with the CATAS group were likewise discussed. It was decided that the botanical survey and characterization of indigenous fodder/forages planned will not be conducted in all sites. Rather, it will be conducted in sites where indigenous fodder/forages are mostly used. The most immediate activity will be conduct of PD's to analyse the existing production systems in the focus sites and finding options for improvement.

For the dissemination sites, the priority is to gather secondary data and do participatory diagnosis. The next step was then to get forages into the villages so farmers can later evaluate and choose options they want to try. CATAS has evolved the idea of establishing the forages not only in plots but rather establishing the forages to show how they can be integrated into the farm (e.g. intercropped with fruit trees). For this, CATAS coined the term "demonstrations".

Yi will edit the strategy for PRC (over the 3 years) and the workplan for 2003.

Trip report to Cambodia, 15-21 July 2003

Phonepaseuth Phengsavanh

Objectives

- Assist collaborators to establish forage evaluation nurseries with farmers in 3 villages, Kampongcham province, Cambodia.

People met

Dr. Sorn San – LLSP National coordinator, DAHP
Mr. Chea Socheat – Provincial collaborator, AHPO, Kampongcham province.
Mr. Chim Si Mach – technician, AHPO, Kampongcham province.

Itinerary

15 Jul Vientiane – Phnompenh, Cambodia
16 Jul Discussions in Phnompenh with Sorn San (Project coordinator)
17-19 Jul Kampongcham, Cambodia
20 Jul Work with Sorn San in Phnom Penh on the guideline for nursery management and planning for training courses.
21 Jul Fly to the Philippines for management meeting.

Summary

Forage evaluation nurseries establishment with farmers:

Three Forage evaluation nurseries were established with farmers in three villages. These three villages are Veal Tekcheng and Veal Khmum, Kor commune; Tboundg Khmum district; and Phnov Lech, Prey Char commune, Cheung Prey district. 12 goat raising farmers were willing to involve in forage evaluation this year.

13 species of forages have been planted in nurseries with farmers. They are:

Grasses:

Brachiaria brizantha Marandu
Brachiaria hibrido Mulato
Panicum maximum Simuang
Paspalum atratum Terenos

Legumes:

Stylosanthes guianensis CIAT 184

Shrubs and tree:

Calliandra calothyrsus
Cratylia argentea CIAT 15816
Codariocalyx gyroides
Desmodium cinerea

Indigofera constricta
Gliricidia sepium
Leucaena leucocephala K584
Sesbania grandiflora

As limited of the time and farmers were quite busy with other activities in the villages, we were not able to plant forages with each farmer that interested to plant this year. We had decided to demonstrate on how to plant forages in three farmers' fields, one from each village, so other farmers can see and practice with us, then followed by discussion on some important points on forage establishment (sowing rate, planting deep, germination and replanting).

Only grasses and legumes were planted directly to the farmers' fields. Some of the shrubs and fodder trees will plant in poly bags first. 500 seedlings of each trees and shrubs will be produced in provincial nursery first, and after one and half month will be distributed to farmers.

Socheat and his team will continue assisting farmers to finish establishing forage evaluation plots on the week after National Election Day (27 Jul 03).

Workplan and planning for next few months:

Workplan and budget were finalised and there were two main activities of (1) forage evaluation and development with farmer and (2) capacity building for local collaborators. And the main outputs for 2003 will be (1) There will be a range of forages available for farmers to evaluate and integrate into their farming systems, and (2) Number of Local staffs will be trained on forage agronomy and methodologies of working with farmers, so then they can train other staffs.

Trip report to Philippines, 21 – 26 July 2003

Werner Stür, Phonepaseuth Phengsavanh and Francisco Gabunada

Objective

- Participate in the first management meeting of LLSP staff to discuss project framework, strategy, implementation arrangements, responsibilities and initial workplans.

Participants

- Werner Stür, Project coordinator
- Francisco Gabunada (Papang), Regional Research Fellow
- Phonepaseuth Phengsavanh (Seuth), Regional Research Fellow
- Jindra Samson, Project scientist
- Dea Bonilla, Administrative office

Itinerary

The meeting was held between trips by W. Stür and F. Gabunada to China and Indonesia, taking advantage of the presence of W. Stür at the Los Banos office. Seuth traveled from Vientiane to Manila on 21 July and returned on 26 July 2003.

Summary

The management meeting brought together all staff involved in the LLSP project. F. Gabunada and P. Phengsavanh joined the project in June 2003 and this was the first opportunity to bring everyone together. Jindra Samson was still officially on maternity leave but managed to attend most sessions.

We reviewed the project framework which had been revised after the first Annual Meeting in Hainan in January. This was followed by discussions on strategies of how to achieve project outputs and agreement on responsibilities within the project. Papang will take primary responsibility for working with collaborators in the Philippines, Indonesia and P.R. China. Seuth will do the same for Cambodia, Vietnam, Lao PDR and Thailand. Jindra will take charge of developing a M&E plan, edit the proceedings of the first Annual Meeting in China, and take on the editorship of LLSP Connections, the project-internal newsletter. Dea will be responsible for administration, finances and production and distribution of reports. W. Stür will take responsibility for overall management. Liaison with CIAT, ILRI, other projects and programs, and reporting to the donor.

The meeting also discussed communication strategies within the project, administrative matters such as travel approvals, reporting, travel allowances and other financial matter, country budgets and plans for each partner country. We also developed initial work and travel plans.

We agreed that such face-to-face meetings are extremely valuable and will attempt to arrange management meetings every 6 months. One meeting can be attached to the Annual Meetings and a second meeting will be held mid-year.

Trip report to Indonesia, 27 July – 8 August 2003

Werner Stür and Francisco Gabunada

Objectives

- Familiarisation with Indonesian collaborators and sites for F. Gabunada
- Review current status of development at key sites in East Kalimantan
- Assist collaborators with development of a strategy for project implementation and workplan for East Kalimantan and extension to new provinces through individual discussions and a workshop with key partners
- Agree on workplans for East Kalimantan and DGLS for extension to new provinces in Indonesia

People met

- Ir. Munief Muchsinin, Head, Livestock Services of East Kalimantan, and staff
- Ir. Ibrahim, Head, Dinas Pertanian, Penajam Paser Utara (LLSP joint-coordinator)
- Yakob Pangedongan, Production Section, Dinas Peternakan East Kalimantan (LLSP joint-coordinator)
- Extension staff and technicians collaborating with the LLSP in East Kalimantan
- Ir. Djodi Suparto, Directorate General of Livestock Services, Jakarta (liaison officer)
- Ir. Maimunah Tuhulele, local consultant (previously national coordinator of the FSP)

Itinerary

27 Jul	Manila – Singapore – Jakarta - Balikpapan
28 Jul	Planning meeting with DGLS and East Kalimantan partners to discuss overall strategy and plans
29 – 30 Jul	Field visits to FSP and potential new sites within driving distance of Samarinda and courtesy visit to the office of the governor of East Kalimantan
31 Jul – 3 Aug	Field visits to FSP and potential new sites near and south of Balikpapan and discussion with collaborators in East Kalimantan
4 – 5 Aug	East Kalimantan planning meeting with site coordinators from FSP and LLSP sites in East Kalimantan, held in Penajam
6 Aug	Final discussions in East Kalimantan Balikpapan – Jakarta
	Final discussion with Djodi Suparto, DGLS
7 Aug	Return flights

Summary

Meetings with national and provincial project partners, extensive field visits and a review and planning workshop with site collaborators resulted in a good understanding of the status of forage and feed technology development in Indonesia by LLSP staff, a better understanding of the emphasis of the LLSP by project partners and a credible start in planning of field activities. Considerable effort is needed to build capacity of partners to be able to assist farmers in maximising returns of investment in improved feeding systems (Output 1). A lot of effort has been put into extension of forage technologies to new sites and more farmers within sites (Output 2) and the considerable experiences of partners needs to be captured.

Details of visit

1. Field visits

We visited FSP sites and potential new sites in Makroman, Bukuan and Rawa Makmur (Pelaran), Lo Sumber (Loa Kulu), Tanjung Harapan (Samboja), Kelurahan, Semoi, Sepaku, Beringin Jaya, Suatang Bulu (Pasar Belengkong), Padang Bangrapat (Tanah Grogot), Rangan Barat 2 (Kuaru) and Saloluang (Penajam).

While there are many farmers who are growing small areas of forages, there are few examples where farmers are deriving substantial financial benefits from improved livestock production. In most cases farmers are growing small areas of forages to ensure that they have feed available for days when they have no time to bring their animals for grazing or go out and cut naturally-occurring feed. This is clearly a benefit for farmers and only requires a small amount of forage area, and those with forage are clearly happy about having forages for this purpose. Some farmers grow larger areas of forages to be able to keep cattle closer to their house, enabling them to reduce labour input into looking after cattle and collection of manure. Few farmers, however, seem to have taken the next step to grow larger areas of forages to raise more animals (or improve productivity) to increase their income from livestock production. There is a big hurdle between extensive, capital-accumulating livestock production to more intensive, market-oriented livestock production. This step is not easy and many of the farmers visited are only achieving a low level of livestock productivity which, to the outsider, looks easy to increase with minimal investment. They clearly need help with improving animal production to maximise their returns and inputs into livestock production. This is an area which needs considerable effort in the LLSP (Outputs 1 and 4).

Over the last few years, our collaborators have concentrated hard on extending forages to new areas and new farmers with cross-visits and supply of planting material. Working with farmers to integrate and utilise forages was left largely to the farmers themselves.

2. Planning workshop with site collaborators

This meeting was held on 4 and 5 August in Penajam, the district capital of Penajam Paser Utara where Ir. Ibrahim is Head of the Agricultural Development and Extension Service. 18 site collaborators (see attached list for details) attended the workshop. In addition, Ms. Maimunah Tuhulele attended as translator and contributor to the workshop, as well as Ir. Ibrahim and Ir. Yakob. Discussions focussed on reviewing progress over the last few years, discuss the change in emphasis in the LLSP and develop workplans for the various sites.

The objectives of the workshop were to

1. Review the progress of forage technology development and dissemination in East Kalimantan
2. Share experiences and problems of working with farmers to develop and disseminate forage technologies among field workers
3. Identify limitations and opportunities of livestock production systems at each site
4. Discuss how we can improve our work
5. Discuss objectives and outputs of the LLSP and how this can be achieved in East Kalimantan
6. Develop workplan outlines for each field worker and feed this information into the overall workplan for East Kalimantan

The Workshop schedule was as follows:

Monday, 4 August 2003

08.00	Field workers present the status of each site (10-15 minutes each)
12.30	Lunch
14.00	Continue presentations
15.00	What forage technologies have been adopted by farmers? List by site and number of farmers adopting
16.30	Why did we succeed or fail at different site?

Tuesday, 5 August 2003

08.00	Review of strategy for forage technology development and dissemination from day 1.
09.00	Objectives, outputs and strategy of the LLSP
09.30	Agroenterprise development
10.00	Workplan development by site
11.30	Presentation of workplans
13.00	Lunch
14.00	Continue presentation of workplans
15.00	Closing

The workshop discussed the potential and status of each site to enable priority setting and planning. A summary is provided in Table 2. The workshop also discussed the strategy for each project output, training needs and the division of responsibilities between Ir. Ibrahim and Ir. Yakob, who are joint coordinators for East Kalimantan. It was decided that Ibrahim initially will have primary responsibility for:

- Penajam Paser Utara (Sepaku, and potential new sites Saluloang and Babulu)
- Pasir (Suatang Bulu, and potential new sites Padang Pengrapat and Rangan Barat)
- Balikpapan (potential site Karang Joang);

and Yakob will have primary responsibility for:

- Kutai Kartanegara (Tanjung Harapan and, if continued, Loh Sumber, Sei Payang and Jonggon)
- Kutai Timur (Muara Wahau – distant so visit maybe 2/yr, and potential site Kaliurang)
- Samarinda (select one site of these 3: Makroman, Bukuan and Tanah Merah)
- Bulungan (Panca Agung, Karnag Agung)
- Berau (Labananan)
- Potential new sites in Junukan, Malinao and Kutai Barat

3. Workplan development for sites in new provinces

Before leaving Jakarta, we met with Djodi Suparta, DGLS, to finalise the strategy and workplan for expansion to new provinces. We agreed to expand to South and Central Kalimantan and West and South Sumatera, and developed a workplan and budget for DGLS.

Table 1. List of participants

Name	Site	Office	Address	Email / Tel. / Fax	Joined project in
Heriyanto	Kec. Sepaku	Dinas Pertanian Kabupaten Penajam Pasir Utara	BPP Sepaku Semoi Desa Tengin Baru Rt 16		1996
Sugeng Widodo	Kec. Loa Kulu	Dinas Peternakan Kecamatan Loa Kulu Kabupaten Kutai Kartanegara	Jl. Gunung Meratus No. 90 Tenggarong	(0541) 663361	1998
Sabiin Warman	Kec. Babulu	Dinas Pertanian Kabupaten Penajam Paser Utara	Gunung Makmur Kecamatan Babulu		
Partono	Kec. Babulu	Dinas Pertanian Kabupaten Penajam Paser Utara	Desa Rintik Kecamatan Babulu		
Mika Salombe	Kec. Muara Wahau	Kantor UPTD Dinas Pertanian Kecamatan Muara Wahau Kabupaten Kutai Timur	Jl. Sakura, Marga Mulya Kecamatan Kongbeng		2000
Muhammad Ishak, S. Pt.	Kec. Samboja	Dinas Peternakan Kecamatan Samboja Kabupaten Kutai Kartanegara Pos 75276	Jl. Gunung Pasir Rt. 1 Kelurahan Kuala Kecamatan Samboja	(0542) 460086 (0812) 5328499	1998
Dwi Ngadianto	Kec. Balikpapan Utara	Disnak Balikpapan	Jl. Giri Rejo Rt. 30 Kecamatan Karang Joang	(0825) 5420533	2000
Agus Setiyanto	Desa Karang Agung	Dinas Pertanian Kabupaten Bulungan Jl. Kolonel H. Soetadji Tanjung Selor	BPP Salimbatu Kecamatan Tanjung Palas Utara Kabupaten Bulungan	(0812) 5895184	2000
Zaimal Abidim	Tanah Merah Sei Siring Pulau Atur, Sindang Sari	Kantor Peternakan Kota Samarinda	Jl. Marsda A. Saleh Rt. 24 RW 09 No. 13	(0541) 767404 (0815) 2074711	2002
Mahmud, S. Sos	Kelurahan Tanjung Harapan Kec. Samboja	Dinas Peternakan Samboja Kabupaten Kutai Kartanegara Pos 75276	Poskeswan Samboja Kelurahan Tanjung Harapan Rt. 1 No. 18	(0542) 460086 (0812) 5386595	1998
Sarwono	Suatang Bulu	Dinas Peternakan Pasir	Suliliran Baru Kecamatan Pasir Belengkong	(0812) 5860364	1999
Halikinnoor	Api-api	UPTD BPIP Api-api	Desa Api-api Kecamatan Waru		

Name	Site	Office	Address	Email / Tel. / Fax	Joined project in
Muhammad Bahraini J	Api-api	UPTD BPIP Api-api	Desa Api-api Kecamatan Waru		
Adlin	Api-api	UPTD BPIP Api-api	Desa Api-api Kecamatan Waru		
Masturi	Sepaku	Dinas Pertanian Kebupaten Penajam Paser Utara	BPP Sepaku Desa Tengin Baru Rt 16		1996
Suroto	Kec. Waru	Dinas Pertanian Kebupaten Penajam Paser Utara	Desa Sesulu Kecamatan Waru		
Suwardia	Kelurahan Petung Kec. Penajam	Dinas Pertanian Kebupaten Penajam Paser Utara	Kecamatan Waru	(0543) 340128	
Mulyono	Kelurahan Petung	Dinas Pertanian Kebupaten Penajam Paser Utara	Kelurahan Petung Rt 05/02	(0543) 350 182 (0812) 547 9226	

Table 2. Summary of site discussion by Ibrahim, Yacob, Muna, Papang and Werner (5 Aug. 2003)

Kab.	Kecamatan	Site/Desa	Cattle/ Goats	Fatten -ing	Breed -ing	Responsible person	Good skills	Training course attended	New sites with high potential	Good develop -ment already	Output 1	Output 2
Penajam Pasir Utara	Sepaku	Sepaku and Semoi	C	X	XXX	Heriyanto Masturi Elvira	XXX new X	X		X	X	X
Penajam Pasir Utara	Penajam	Saluluang	C		XXX	Amin	X	X	X			new site
Penajam Pasir Utara	Babulu	Babulu	G		XX	Sabiin or Oddang						
Pasir	Paser Belengkong	Suatang Bulu	C		XXX	Sarwono	X			X-can be an example		X
Pasir	Tanah Grogot	Padang Pengrapat	C		XXX	Abu Bakar						New site
Pasir	Kuaro	Rangan Barat 2	C		XXX	Yong Deng		X				New site
Kutai Kartanegara	Samboja	Tanjung Harapan	C	X	XXX	Mahmud Ishak	XX X	X X		X	X	X
Kutai Kartanegara	Loa Kulu	Loh Sumber	C		XXX	Sugeng Widodo Tri Budiarsih		X				?not sure
Kutai Kartanegara	Loa Kulu	Sei Payang	C		XXX	Faturrahman		X				? not sure
Kutai Kartanegara	Loa Kulu	Jonggon A	C		XXX	Sugeng Widodo Tri Budiarsih						? not sure
Kutai Kartanegara	Loa Kulu	Jonggon B	C		XXX	Sugeng Widodo Tri Budiarsih	X?					? not sure
Kutai Kartanegara	Loa Kulu	Jonggon C	C		XXX	Sugeng Widodo Tri Budiarsih						? not sure
Kutai Timur	Muara Wahau		C		XXX	Mika Salombe	X	X		X-high potential		
Kutai Timur	Kaliurang		C		XXX	Tugiman (PM)	XXX	X				?check Tugima n (yacob)

Kab.	Kecamatan	Site/Desa	Cattle/Goats	Fattening	Breeding	Responsible person	Good skills	Training course attended	New sites with high potential	Good development already	Output 1	Output 2
Balikpapan	Balikpapan Utara	Karang Joang	C		XXX	Dwi Ngudianto		X				?ibrahi m checks
Samarinda	Samarinda Ilir	Makroman	G		■	Jumiati					■	Yacob checks
Samarinda	Palaran	Bukuan	G		■	Edi Supyono					■	Yacob checks
Samarinda	Palaran	Tanah Merah	C		XXX	Zaenal						Yacob checks
Bulungan	Tanjung Palas Utara	Panca Agung	C		■	Agus S	XX	X			■	Visit to develop plan
Bulungan		Karang Agung	C		■	Agus S	XX	X			■	Visit to develop plan
Berau	Teluk Bayur	Labanan C	C		■	?name		X			■	Visit to develop plan
Nunukan						Invite DW for training			Farmers already took planting materials			Potential new site
Malinao						Invite DW for training						Potential new site
Kutai Barat						Invite DW for training						Potential new site
XXX = Priority site for Output 1 (developing production systems)	■ = select one of the sites in green for Output 1	■ = select one of sites in blue for Output 1										

Trip report to Canberra, Australia, 13 - 14 Aug 2003

Werner Stür

Objectives

Represent CIAT at the 2003 Annual Conference - ATSE Crawford Fund entitled "The Livestock Revolution – A pathway from poverty?" held at Parliament House, Canberra, Australia, on 13 August 2003.

People met

- Dr. Carlos Sere (Director General) and Dr. Doug Gray (Asia Representative) ILRI
- Project Coordinators of ACIAR (Colin Piggin, John Copland and others)
- Dr. Joanne Millar, Charles Sturt University and colleagues
- Large range of livestock researchers from Universities and Government Departments

Itinerary

13 Aug	Brisbane – Canberra Attend Crawford Fund Conference at Parliament House, Canberra
14 Aug	Canberra – Brisbane

Summary

The Conference provided a good opportunity to discuss livestock-related CIAT research activities in Asia with a large range of scientists and development agencies. Dr. Sere kindly included CIAT activities in his Keynote presentation to the Conference. The conference covered a wide range of topics, unfortunately all talks apart from Dr. Sere's addressed global issues rather than providing ideas of how smallholder farmers can participate in and benefit from opportunities generated through the livestock revolution. The conclusion of the conference organisers was that the livestock revolution is happening and that semi-commercial enterprises are well placed to take advantage of this opportunity. Unfortunately the conference failed to identify avenues for smallholder participation.

There is no doubt in my mind that smallholders are benefiting tremendously from increased livestock demand and prices and, as seen at many LLSP sites, are taking advantage of these opportunities. During my recent visit to China and Indonesia, it was clear that farmers received a farm gate price for live animals which was approximately double the world market price.

I will investigate possibilities of developing a manure / livestock waste products project with ACIAR over the next few months. Several ACIAR Project Coordinators were interested in this topic but, as with all cross-cutting issues, finding the 'right' coordinator is crucial.

Conference Program

- 08.30 Registration
- 09.15 Welcome and introduction - Tim Fischer, Chairman of ATSE and Crawford
Opening address - Alexander Downer, Minister for Foreign Affairs, Australia
- 09.50 Key note address "Not by bread alone" – Carlos Sere, Director General, ILRI
- 10.30 Press conference
- 11.00 Session 1 "Big markets for small farmers" – chaired by Peter Core, ACIAR
- Meeting and milking global demand: Stakes for small farmers in expanding markets – Chris Delgado, IFPRI
 - Successful marketing perishables: The outlook for small farmers – Mike Moore, formerly Director General of the World Trade Organisation
 - Transforming lives with livestock-based agribusiness – John Longworth, University of Queensland
- 12.30 Lunch
- 13.30 Session 2 "Sustainability: Learning the lessons of revolutions past" – chaired by David Crombe, Meat and Livestock Australia
- Feed vs. food: The future challenge and balance for farming – Zhang-Yue Zhou, University of Sydney
 - Waste not, want not: Managing livestock waste for income and environment – Jock Christoe, CSIRO
 - Taking account of animal ethics and welfare – Judith Blackshaw, University of Queensland
- 15.00 Afternoon tea
- 15.30 Session 3 "Managing production without disease" – chaired by Mike Taylor, Agriculture, Forestry and Fisheries Australia
- Emerging diseases: Causes, conditions and controls – Mike Jeggo, Animal Health Laboratory, CSIRO
 - A role for Australia: Contributions and benefits – Gardner Murray, Agriculture, Forestry and Fisheries Australia.
- 16.30 Session 4 "The future for a livestock revolution" – John Vercoe, ILRI and Crawford
17.0 Closing remarks – Tim Fischer, ATSE Crawford Fund

Trip report to Vietnam and Cambodia, 15 Aug – 5 Sep 2003

Phonepaseuth Phengsavanh and Francisco Gabunada

Objectives

- Facilitate cross-visit and experience-sharing of Lao PDR district and provincial staff involved in the FLSP with LLSP partners in Tuyen Quang, Vietnam
- Visit potential sites and conduct training for CAEEP technicians in Battambang, Cambodia
- Visit new LLSP sites and conduct a training on forage establishment and management in Kompong Cham, Cambodia

People met

Vietnam:

National Institute of Animal Husbandry

Dr. Hoang Van Tieu, Deputy director of NIAH
Dr. Ly Viet Lee, adviser to NIAH
Dr. Nguyen Van Dong, Director of Pig research center
Le Hoa Binh, LLSP- Vietnam coordinator

Agriculture and Rural Development Department of Tuyen Quang province

Mrs. Nguyen Thi Dinh, Head of office
Mr. Nguyen Huu Hoan, Yen Son district governor
Vu Thi Yen, deputy head of DARD

Cambodia:

Ministry of Agriculture Forestry and Fisheries

Dr. Sorn San (LLSP National coordinator), Head, National Animal Health and Production Investigation Center
Mr. Kao Phal, Director, Department of Animal Health and Production
Mr. Sen Souvann, Deputy Director, Department of Animal Health and Production

Cambodia Australia Agricultural Extension Project (CAAEP)

Lex Freeman
Terry O'Sullivan

Battambang Provincial Department of Agriculture, Forestry and Fisheries

Chiem Samrupphone, Deputy Director
Sao Chiem, Head, Animal Health and Production

Kompong Cham, Provincial Department of Agriculture, Forestry and Fisheries

Chea Soucheat, Deputy Chief

Itinerary

16 Aug	Manila – Hanoi (F. Gabunada)
18 Aug	AM : Vientiane – Hanoi (P. Phengsavanh and Lao delegates) PM : Visit to NIAH Head Office and Centers
19 Aug	AM : Hanoi – Tuyen Quang PM : Visit to Tuyen Quang Provincial Dept. of Agriculture Visit to a private dairy farm
20 Aug	AM : Visit 2 farmers using forages to feed fish PM : Visit 2 farmers selling their forage cuttings for feed and planting materials
21 Aug	AM : Visit one farmer using forages for fish PM : Experience sharing at District Office
22 Aug	Tuyen Quang – Hanoi
23 Aug	Hanoi – Phnom Panh, Cambodia
24 Aug	Phnom Penh (training material preparation)
25 Aug	Phnom Penh – Battambang (meeting with Lex Freeman (CAAEP))
26 Aug	Training for CAAEP staff
27 Aug	Visit 5 CAAEP demonstration plots and 1 goat raiser working with Battambang District Animal Production and Health Office
28 Aug	AM : Prey Pdoav Village, Prach Posh Commune, Kokrala District - -visit 3 farmers with Deputy Head of Provincial Dept. Of Ag., For. and Fis. PM : Visit 3 goat farmers working with Battambang District Animal Production and Health Office
29 Aug	Battambang – Phnom Penh
30-31 Aug	In Phnom Penh (training material preparation)
1 Sep	AM : Phnom Penh – Kompong Cham Visit 2 farmers working with LLSP in Cheung Prey District PM : Training on Forage Establishment and Management for technicians
2 Sep	Training on Forage Establishment and Management for technicians
3 Sep	AM : Visit 5 farmers at FLSP site in Tboung Khmum District PM : Kompong Cham – Phnom Penh
4 Sep	In Phnom Penh (report preparation)
5 Sep	Phnom Penh – Vientiane (P. Phengsavanh)
6 Sep	Ho Chi Minh City – Manila (F. Gabunada)

Summary

The cross visit for 17 FLSP partners (provincial, district staff and heads of districts and agricultural offices) to Tuyen Quang was organised successfully. The team visited several LLSP sites to learn and exchange experiences about forage technology development, methodologies used,, steps in the development and impact of forages on livelihood of farmers at the visited sites.. The heads of district and provincial agriculture offices from Laos were also interested in the roles and support provided by the local organisation to forage technology development in the areas.

For site selection in Battambang more visits are needed to different sites with different agricultural production systems as the sites visited on this trip were not promising. Most of

them are quite close to the town and located in lowland areas, where most of the area was devoted to rice and fruit trees. However, there was one site where farmers had feed shortages in both wet and dry season. We could start to test some forages with few farmers in that area. We have discussed the possibility of conducting a PD in December this year in a few villages in this area to help us decide if there is a real interest by farmers in Battambang to grow forages.

The visit to Battambang involved coming to some CAEEP villages where some forages were planted as demonstration plots. There is a need to learn more about how CAEEP work with farmers (Village and farmer selection) before we work together. However, we see that we can help in term of forage production and how to introduce and develop forage technologies with farmers for their staff through training course.

The training course on basic agronomy for local staff in Kampong Cham was conducted successfully. Thirteen staff from provincial and district animal health and production office attended. Even though there was a great diversity in the knowledge of forages, the course was appreciated by participants who showed great interest in forage development. The content of the course was developed as simple and practical for participants to understand, with a lot of examples of forage development in different situations in SE Asia. There were two staff (Mr. Lorn Sophal and Mr. Chim Simach) who have some experiences with forages. They may be used as trainers in forage agronomy in the future.

Cross-Visit and Experience Sharing in Tuyen Quang

The cross-visit was attended by a total of 17 staff from the national, provincial and district offices that are collaborating with the Forages and Livestock Systems Project, FLSP (Table 1). The visit enabled the Lao participants to interact with and learn from the FSP/LLSP-collaborating offices (provincial and agriculture offices in Tuyen Quang) and farmers. The interaction focused on two major issues : (1) methodology/ dynamics of forage expansion, and (2) support provided by the district and provincial offices to encourage forage technology development and expansion activities.

The farm visits enabled the participants to interact with the farmers and observe how the forages were integrated/utilized on farms. An important message was that forage technology development and expansion involved the farmers as well as district and provincial offices. A typical example involves the following process:

- a) Ms. Yen and her staff work with Farmer A to try out forage species
- b) Farmer A utilizes and expands forages in his farm
- c) Other farmers observe that Farmer A has benefited from the forages
- d) Farmer B approaches Farmer A and obtains (include buying) forage planting materials from Farmer A
- e) Ms. Yen and staff learns from Farmer A about Farmer B
- f) Ms Yen and staff visits Farmer B and inquires if s/he is really interested
- g) If Farmer B is interested, Ms. Yen and staff provides additional planting materials (more species/varieties) and training

Other factors observed to contribute to expansion of forages in Tuyen include increase/stability in the price of cattle, coupled with decrease/instability in the price of crops

and the presence of commercial dairy farms. Stability and increase of cattle prices have led some farmers to raise more cattle and expand their forage areas. The commercial dairy farms likewise buy forages from the smallholder farmers. This led some farmers to replace (still to a little extent) their crops with forages. The problem of low soil fertility, they overcome by applying manure from their animals to the forages. During the time of the visit, farmers were selling Napier grass cuttings at a price of 100 VND (0.6 cent US\$) per kg. Farmers cut their forages 6-7 times per year. The system involves manual or (in a few farmers) mechanical cutting (using petrol-operated grass cutters). The cut forages are loaded in a truck and brought to the dairy farm. The dairy farms separate the leaves from the stem, then feed (ensile, if too much) the leaves.

Table 1. List of Participants on the Lao PDR cross-visit to Tuyen Quang, Vietnam, 18 – 23 August 2003

1. Luang Phabang Province (3)

Mr. Bounchanhmy Keosavath (*Head of Provincial Agriculture and Forestry Office*)

Mr. Pheng Khamvong (*Head of Provincial Livestock Office*)

Mr. Soulideth Phraponsay (*Livestock Specialist, Provincial Livestock Office*)

2. Xieng Khouang Province (2)

Mr. Sompheng Siphongsay (*Head of Provincial Agriculture and Forestry Office*)

Mr. Khampai Phommavong (*Livestock Specialist, Provincial Livestock Office*)

3. Luang Phabang district (2)

Mr. Houmpheng Sivilaisack (*Head of District Agriculture and Forestry Office*)

Ms. Thongbay Siesomphone (*Extension Officer*)

4. Xieng Ngeun district (2)

Mr. Souvanh Dalachith (*Head of District Agriculture and Forestry Office*)

Mr. Somvanh Phommali (*Extension Officer*)

5. Pek district (2)

Mr. Bounpany (*Head of District Agriculture and Forestry Office*)

Ms. Sin Phuttapanya (*Extension Officer*)

6. Nonghet district (2)

Mr. Xai Keulor (*Head of District Agriculture and Forestry Office*)

Mr. Kaoyang Yongma (*Extension Officer*)

7. Pak Ou district (2)

Mr. Bounchanh (*Head of District Agriculture and Forestry Office*)

Mr. Thongkham Vongpralath (*Extension Officer*)

8. Lao National Organisations (2)

Mr. Viengsavanh Phimpachanhvongsod (*NAFRI*)

Mr. Viengxay Photakoun (*NAFES*)

Mr. Bounthong Douangpanith (NAFRI)

9. CIAT (3)

Mr. Phonepaseuth Phengsavanh

Mr. Francisco Gabunada

Mr. Peter Horne

Site Selection and Training in Battambang, Cambodia

The soils in the province are flat and drainage is a problem during the wet season. Rice is the main crop, with fruit trees (citrus) and some vegetables planted to a lesser extent. Soil pH in the areas visited ranged from 6-7. Farmers raise cattle, mainly for draft purposes. The Indian types (farmers prefer taller animals, like Hariana) have been infused into the native breed. Crosses/upgrades of this type are very common in the sites. Some farmers also raise goats. These were mostly the native breed with some infusion of larger breeds (dairy types similar to Nubian, Jamnapari). Malnutrition and disease were common problems based on observation and interaction during the visit. There was some degree of triplet kidding but high neonatal mortality is a problem.

Rice straw is the main feed for cattle especially in the dry season. The main problems learned was lack of feeding areas during the wet season (due to cropping) as well as during the dry season (too dry for natural vegetation growth).

CAAEP on-farm forage demonstration plots and training on forage technology development

CAAEP is working with the Office of Extension. It has set up on-farm forage demonstration plots. The forage demonstration plots located close to the district center were visited. These include plots where forages were intended for use as feed and plots of fodder trees for use as source of fuel wood which would support a plant intended to produce electricity from wood.

For the demonstration of different forage species as feed, the forages planted include Napier Grass, Guinea Grass, Gliricidia and Leucaena. At least one farm from each of the following sites were visited:

1. Surtiem Village, Banon District – forages were established in a nursery owned by the village head. Unwanted grazing is a problem at the site.
2. Ommar Village, Battambang District – the farmer was raising Hariana grade bulls used as breeders for other farmers (other farmers pay for the breeding service). The plot was located in an area that was relatively waterlogged such that Napier Grass seemed not to grow well.
3. Ondongpreng Village, Takrieng Banon District – one farm visited had a demonstration on Leucaena and Gliricidia for use as fuelwood. The seedlings were planted (bare root) in early August. Survival was good for seedlings that were planted. Some Gliricidia cuttings were also planted – it was still too early to tell whether the cuttings would grow into plants. Another farm visited was raising goats. The animals were herded during the day and housed at night. It was learned from the caretaker that neonatal mortality was about 20 percent.

4. Samrao takok Village, Aiphanom District – another farm with *Leucaena* and *Gliricidia* seedlings. Like the other farm, the seedlings had good survival. However, the cuttings needed to be planted deeper since the soil was very soft such that anchorage was a problem.

All the forage demonstration plots could benefit from a wider range of forage species/varieties. The main criteria for selecting what to try would be tolerance to poor soil drainage. Grasses like *Paspalum*, *Brachiaria humidicola* and *Setaria* as well as legumes like *Arachis* (as cover crop between fruit trees), *Desmodium cineria*, *Sesbania* and *Erythrina* could be evaluated for performance under poor soil drainage. For dry season, species like the other *Brachiaria spp.*, *Andropogon gayanus*, *Flemingia macrophylla* and *Indigofera sp.* may be evaluated.

The visit enabled us to show the technical side of CAAEP's forage activities (forages tested based on climate and soil conditions in the area). It would be worthwhile to learn more on CAAEP's approach in working with farmers.

The training conducted for CAAEP staff served as a good entry point for introducing the LLSP to CAAEP. One day was devoted to the following topics:

- a) Forage technology development methodology of FSP/FLSP/LLSP
- b) Forages and their benefits
- c) Ways of growing and using forages
- d) Forage selection

At this stage, the LLSP can do the following activities with CAAEP:

- 1) provide planting materials (in small amounts) of the potential species which they could add up to their demonstration sites, and
- 2) include their staff in trainings (at their own expense) that will be done with the existing LLSP sites.

The results of the forage demonstration plots and the impact of the trainings for CAAEP staff will serve as basis to decide whether to include the CAAEP sites for expansion next year.

Visit to potential sites in Battambang with Provincial Dept. of Agriculture, Forestry and Fisheries

Four farmers raising goats (Battambang District) and three farmers raising cattle (Prey Pdoav Village, Prach Posh Commune and other nearby villages in Kokrala District) were visited. The Kokrala District is about 30 km from Battambang District. Kokrala is a newly established district and the Provincial Department of Agriculture, Forestry and Fishery is assisting the farmers in the district. The soil in the area appears to be less fertile than the other sites visited. Drainage is poor but the water table is very low, such that water is a problem during the dry season. A large part of the area is devoted to lowland rice. Feed availability is a problem during cropping as well as in the dry season. The average number of cattle per farmer is between 2 and 3. Farmers herd their cattle in the wet season, while free grazing is practiced in the dry season. Some farmers were observed to provide cut feed to their cattle in addition to rice straw.

One of the three farmers visited is rich, with 1500 hectares and 500 heads of cattle. He was asking for advise as to which forages can be tested in his farm to solve the dry season feed problem.

The other two farmers were small-scale farmers raising 3 heads of cattle. They were also interested to try out forages especially for use during the dry season.

The goat farmers in Battambang raised from 10-20 goats. They raise their goats by herding. Two of these farmers have no land available for establishing forages. The other two have relatively small areas.

The same activities could be done by LLSP for these potential sites this year. In addition, forage planting materials can also be provided to the Animal Health and Production Unit. This unit has an existing forage nursery which has Napier Grass, Elephant Grass (looks like dwarf Napier), *Desmanthus virgatus*, *Clitoria ternatea*, *Leucaena leucocephala* and *Centrosema pubescens*. The head of this unit was interested to establish the forages.

Summary and recommendations of site selection in Battambang provinces:

Based on the visit to Battambang, it can be gleaned that the current situation of livestock production in province provides only a limited potential for LLSP to work in, because of the following reasons:

- (1) The average number of animals kept by farmers in the visited sites is relatively small (about 2-3 cattle). The animals are kept mostly for draft power and in a short time they could be replaced by hand tractors, like in many lowland areas of other countries. With this small number of animals, farmers can afford to get enough feed for their animals in critical time of the year (when feed shortage occurs).
- (2) Land limitation is another problem. Few farmers showed interest for planting the forages but there is very limited land as most are used for fruit trees and other crops.
- (3) There are some local fodder trees that are still underutilised in many sites, therefore, LLSP can just to provide some technical recommendations to provincial livestock staff on how to use this feed resources.

From the above summary, the next activities that can be recommended are the following:

- (1) Study the potential of more areas in other provinces to identify the appropriate site for LLSP to start working. Dr. Sorn San suggested that Battambang is a little bit far and had limited potential. He is suggesting to visit some more sites such as Phursat, Kampong Chnang and other.
- (2) The site selection should be done in early next year. This will help in developing the workplan for upcoming activities in Cambodia.

Training on Forage Establishment and Management and Visits to LLSP Sites in Kampong Cham, Cambodia

Training on forage selection and management

The training was conducted for 2 days followed by a field visit to the LLSP site in Tboung Khmum District. A total of 13 participants were involved (Table 2). The participants include

two staff from the Office of Extension (also working with CAAEP). The rest were from the Office of the Animal Health and Production, mostly working as TOTs (training for technicians and farmers).

The following topics were discussed in the training:

- a) What are forages
- b) Benefits from forages
- c) Ways of growing and using forages
- d) Forage selection based on climate and soil
- e) Establishment of forages
- f) Management of forages

The participants were well-selected. Each TOT is assigned to a specific district, which can be useful to expansion of LLSP activities. The timing also enabled the participants to see how forage establishment is done by farmers in the field (during the field visit, the forages visited were still in seedling stage – some needed weeding and most were sown too densely; there was also some accidental grazing).

Field visit to existing sites in Kampong Cham

Three farmers from Cheung Prey District who have started establishing forages near their houses were visited in the morning of September 1. The first farmer to establish the forages have already started first weeding. This farmer has also applied manure to the seedlings. The *Brachiarias* and *Stylo 184* have very good initial establishment. These were followed by *Panicum maximum*. *Paspalum atratum* seedling did not look so healthy and had low germination rates.

The other two farmers had only recently sown the forages. These were just emerging. Land preparation was adequate.

Another four farmers in Tboung Khmum District were visited on September 3, together with the forage establishment and management trainees. The soil in the area is relatively more fertile than in Cheung Prey District. The same trend in establishment rate of the forage species in Cheung Prey was observed. At this stage, the forages have started emerging but establishment has been slowed down due to weed pressure. The farmers were advised to do weeding as soon as possible.

A common feature of the established forages at both sites was the high density of emerged seedlings. This would entail the need for thinning. Thinning would provide two advantages:

- the seedlings that have been thinned out could be used for expansion either within the farmers' area or for other interested farmers nearby.
- the seedlings left behind after thinning would grow faster as competition pressure would be reduced.

At both sites, there is a need for more frequent monitoring at this stage to help the farmers learn how to manage their forage for maximum survival and establishment.

Other farmers at both sites have also started to signify their interest to try out forages in their farms.

The seeds of fodder trees and shrubs arrived recently. These will soon be distributed to the collaborating farmers. Shrubs will be direct seeded while trees will be sown in polybags for transplanting.

The Provincial Animal Health and Production Office also maintain a forage nursery. The species in the nursery were intended for distribution to interested farmers. The species existing in the nursery include King Grass, Dwarf Napier (known locally as elephant grass), *Panicum maximum*, *Gliricidia sepium*, *Leucaena leucocephala* (the trees had a lot of pods, which would represent a high weed potential), *Calliandra calothyrsus* and *Tricanthera gigantea*. The staff maintaining the nursery (Chim Simach) is also the one working with the LLSP farmers.

The LLSP will get more forage species into the nursery to help out not only the farmers that the project works with, but also other farmers. Chim Simach would also be able to learn from trainings on how to better get the forage planting materials to other farmers. Likewise, he will be of help in training other technicians and farmers on forage establishment.

Table 2. List of participants a in training course on forage selection and establishment, held at the Office of Animal Health and Production, Kampong Cham, from 1-3 September 2003.

	Name of Participants	Organization/Office	Position	Gender
1	Chea Soucheat	Kompong Cham Provincial Office of Animal Health and Production	Vice Chief	Male
2	Cheun Chett	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Kompong Siem District	Male
3	Lorn Sophal	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Tboung Khmum District	Male
4	Kong Sambath	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Cheung Prey District	Male
5	Mao Thavy	Kompong Cham Provincial Office of Animal Health and Production	study team - works in veterinary laboratory and also do field sampling	Female
6	Aun Sounheang	Kompong Cham Provincial Office of Animal Health and Production	study team - works in veterinary laboratory and also do field sampling	Female
7	Chim Simach	Animal Production Promotion (WB loan project) - LLSP contact	maintains forage nursery and produce planting materials for farmers	Male
8	Tanh Botta	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to O Raing Ov District	Male
9	Chieng Sarith	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Me Mot District	Male

10	Oeur Sereywuth	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Ponjeakreak District	Male
11	Seng Sorphea	Kompong Cham Provincial Office of Animal Health and Production	Trainer assigned to Ponjeakreak District	Male
12	Toum Pen	Kompong Cham Provincial Office of Extension	staff	Female
13	Im Mony	Kompong Cham Provincial Office of Extension	staff	Female

Trip report to East, Central and South Kalimantan, Indonesia 19 Sep – 2 Oct 2003

Francisco Gabunada Jr., Maimunah Tuhulele and Djodi A. H. Suparto

Objectives

- Conduct a training course on animal nutrition and experimentation with small farmers for field workers in East Kalimantan LLSP sites
- Assist the LLSP Indonesia liaison officer in selecting new expansion sites in Central and South Kalimantan Provinces

Key people met

East Kalimantan:

- Ir. Munief Muchsinin, Head, Dinas Peternakan, East Kalimantan
- Ir. H. Ibrahim, Head, Dinas Pertanian, Penajam Pasir Utara (national coordinator)
- Yakob Pangedongan, Production Section, Dinas Peternakan East Kalimantan (national coordinator)
- LLSP-collaborating field workers in East Kalimantan sites

Central Kalimantan:

- Drs. Ec. Darmadji, Head, Dinas Peternakan, Central Kalimantan
- Dr. Burhan Abdullah, Deputy Head, Dinas Peternakan, Central Kalimantan
- Ir. Samara, Head for Administration, Dinas Peternakan, Central Kalimantan
- Ir. Moch. Chalinja, Head, Dinas Peternakan, Kabupaten Kapuas
- Mr. Dadir, PPL, Kecamatan Sabarang

South Kalimantan:

- Ir. Djoko Purwanto, Kasubbag. Program, Dinas Peternakan, South Kalimantan
- Ir. Siti Wahidah, Kasi Teknologi dan Budidaya, Dinas Peternakan, South Kalimantan
- Dr. Hj. Sri Sulistyaningsih, Penyulu Pertanian Madya, Dinas Peternakan, South Kalimantan
- Ir. Soetrisno, Head Dinas Peternakan, Kabupaten Tanah Laut, South Kalimantan
- Ir. Indartati S., Production Division, Dinas Peternakan, Kabupaten Tanah Laut, South Kalimantan
- Moch. Talin Yusuf, Feed Section, Dinas Peternakan, Kabupaten Tanah Laut, South Kalimantan

Itinerary

19 Sep	Manila – Singapore - Balikpapan
20 – 22 Sep	Preparation for training (Maimunah, Ibrahim, Yakob and Papang)
23 – 26 Sep	BPLP Sempaja (training on animal nutrition and experimentation with small farmers)
27 Sep	Meeting on plan of activities from October to March 2004 (Maimunah, Ibrahim, Yakob and Papang)
28 Sep	Maimunah back to Jakarta Papang and Djodi in Palangkaraya, Central Kalimantan
29 Sep	Palangkaraya – meet with Provincial Livestock Services Head and staff

30 Sep	Visit Dinas Peternakan, Kabupaten Kapuas Visit 3 farmer groups (kelompok) in Kecamatan Sabarang Visit BPTU in Pelaihari
01 Oct	Visit Dinas Peternakan Kabupaten Tanah Laut Visit 3 farmer groups (kelompok) in Tanah Laut (2 in Desa Bumi Jaya; 1 in Desa Tirta Jaya) Djodi back to Jakarta
02 Oct	Papang visited BPTU Pelaihari then back to Balikpapan Meeting on details of activities in East Kalimantan with Ibrahim Papang back to Philippines

Summary

A training course on animal nutrition and experimentation with small farmers was conducted for LLSP-collaborating field workers in East Kalimantan on 22-26 September 2003. The course was aimed to provide the participants with knowledge on options for improving nutrition of ruminants as well as how to go about with experimentation with small farmers. The workplan for East Kalimantan was likewise reviewed and activities up to March 2004 were laid out.

Potential collaborators and sites in Central and South Kalimantan were visited to search for dissemination sites of LLSP. Provincial and Kabupaten Dinas Peternakan offices were informed and expressed interest in collaborating with the project. Potential sites were visited and those which the LLSP will work were identified. LLSP will work in Kecamatan Sabarang at Kabupaten Kuala Kapuas in Central Kalimantan. In South Kalimantan, the LLSP will work in Kecamatan Pelaihari at Kabupaten Tanah Laut.

1. Training for collaborating field workers in Animal Nutrition and Experimentation with Small Farmers

The training was conducted in BPLP in Sempaja. It was attended by a total of 14 participants, all working with the LLSP in the sites (Table 1). The training covered topics related to animal nutrition and experimentation with small farmers (Table 2). The major aim of the training is to present the approach which LLSP adopts in working with farmers in the sites. Two basic principles were emphasized:

- (a) the farmer participatory approach which includes a strategy that involves the whole village in problem identification and dissemination, and a smaller focus group of farmers that would try out options and develop technologies for improving livestock and livelihood, and
- (b) the possible options that can be offered in relation to improving animal (ruminant) nutrition.

The participants were likewise able to formulate detailed workplans for individual sites. These were set for the coordinators (Yakob and Ibrahim) to review, refine and then implement.

The participants appreciated the farmer participatory approach and strategy of LLSP in working with farmers. However, their main concern was how to get their bosses to approve of the activities, especially in relation to the amount of time required for the work. It was

agreed that the coordinators (Ibrahim and Yakob) would facilitate getting the plans and the approach known and appreciated by the bosses of the participants.

On the animal nutrition side, the participants first wanted to know about very technical issues like feed formulation. However, it was explained to them that the information would not be of much value considering the resource situation of the farmers they work with. Instead, the basic aspects on the potential of legumes to provide protein, the importance of taking care that the rumen functions well and the amount of feed necessary for ruminants was emphasized.

Table 1. List of participants attending the training course in Animal Nutrition and Experimentation with Farmers

No.	Site	Participants
1.	Makroman	Jumiati
2.	Palaran/Bukuan	Eddi Supiono
3.	Sungai Payang	Faturrahman
4.	Samboja	Mahmud
5.	Samboja	Ishak
6.	Sepaku	Heriyanto
7.	Suatang Baru	Sarwono
8.	Balikpapan	Dwi Ngadianto
9.	Muara Wahau	Ardiansyah
10.	Bulungan	Agus Setiyanto
11.	Padang Pangrapat	Abu Bakar
12.	Api-api	Ashar
13.	Babulu	Bambang Surijadi
14.	Berau	Mono

Table 2. Program for Training on Animal Nutrition and Experimentation with Small Farmers

Tuesday – September 23

08.00 – 12.00	Opening Program Introduction of participants and resource people Expectations of participants Discussion on Existing Knowledge of participants Presentation of course content and house rules
12.00 - 13.30	LUNCH BREAK
13.30 – 17.00	Comparison of Feeding Systems How the rumen works Nutrients needed by ruminants Forage Quantity Forage Quality

Wednesday – September 24

08.00 – 09.30	Visit Expo Peternakan (Animal Expo)
09.30 – 12.00	Field Visit and Interaction with Farmers
12.00 - 13.30	LUNCH BREAK
13.30 – 15.00	Report Preparation
15.00 – 17.00	Reporting and Discussion

Thursday – September 25

08.00 - 09.00	LLSP's Approach in Working with Farmers
09.00 – 12.00	Preparation of plans by site
12.00 - 13.30	LUNCH BREAK
13.30 – 17.00	Presentation and Discussion of Site Plans

Friday – September 26

08.00 – 09.00	Results of Experiments on Supplementation
09.00 – 12.00	Experimentation with Small Farmers
12.00 - 13.30	LUNCH BREAK
13.30 – 17.00	Summary and Open Forum CLOSING CEREMONIES

2. Activities Planned for East Kalimantan

We met with Ibrahim, Yakob and Maimunah to plan out the upcoming activities for 2003 based on the workplan. It was decided that the planned training on Participatory Research will be done in February 2004, instead of November 2003. The main reason is that Yakob will be in Lao PDR to attend the English training course.

3. Visit to Central Kalimantan

We visited the Provincial Livestock Services Office of Central Kalimantan (*Dinas Peternakan Propinsi Kalimantan Tengah*). We were able to interact with the head, Drs. Ec. Darmadji and his deputy, Dr. Burhan Abdullah. It was learned that *Brachiaria humidicola* has been adopted by approximately 500 farmers in Kanamit, Kuala Kapuas and Maliku. Most of the adoption were spontaneous and happened with minimal/no effort from the government. The Dinas Peternakan felt that the spread of *Brachiaria humidicola* was a boost to the development of their cattle industry. The Dinas has a 3 page report about the potential of developing cattle industry in the province by using *Brachiaria humidicola*. The report is a good material for an article to the LLSP Connection.

The Dinas Peternakan head was agreeable with the proposed activity of LLSP in Central Kalimantan. The head also inquired what species have potential for mini-ranch (grazing) operations. We were also able to get some livestock production data from the province. The data covers a 10-year period and is by Kecamatan.

We met with the Dinas Peternakan of Kabupaten Kapuas. It was learned that Kabupaten Kapuas is a major producer of lowland rice in the province. The head of the Dinas expressed his enthusiasm in being involved with the LLSP. The potential site identified was the district of Sabarang. Sabarang is part of the Agropolitan area – an area where the government has spent its effort to develop agriculture (both crops and livestock). To date, a slaughter house has been constructed while a livestock market is under construction in Sabarang. Market for

products and cattle produced in this area include Palangkaraya and Banjarmasin. Sabarang is strategically located in relation to these two markets.

Kecamatan Sabarang is part of Kabupaten Kapuas in Central Kalimantan. Like most of the areas in the Kabupaten, the topography is flat. Water table looks very shallow such that the vegetation does not really get very dry even in the dry season. Soil pH was tested at 4.0. Crops in the area include pineapple, rambutan, vegetables, corn and salak. The area looks more productive than the other areas we have passed by from Palangkaraya. It was learned that the area has been cultivated (opened up to transmigration) as early as the 1960's.

We visited three farmer groups in one Desa. These farmers are raising cattle and have started planting *Brachiaria humidicola* in their farms. Aside from this, they have also started planting *Setaria* (looks like Lampung) and King Grass. Accordingly, their major problem related to forage establishment is water logging/seasonal flooding. Even for *B. humidicola*, they had to construct raised bunds so that the species can be established successfully. Accordingly, this requires up to Rp 4.5million (US\$510) per hectare. Each farmer has allotted 0.25 hectares of area for planting their forages.

Adoption of *B. humidicola* by farmers has started in the area. We were able to visit 3 farmers who had established between 0.50 to 1.50 hectares of *B. humidicola*. These farmers, together with the other members of their *kelompok* (farmer group) are raising an average of 2 heads of cattle. Aside from beef, the animals are utilized for manure production (sold at Rp4000/20kg). The farmers were interested to expand their cattle production, thus wanted to try more forages.

One outstanding characteristic mentioned by one of the farmers in the area was the ability of *B. humidicola* to regrow fast. Accordingly, he can cut *B. humidicola* as frequently as every 15 days. On the other hand he cuts his *Setaria* every 20 days. When used as feed to cattle at this stage of *Setaria*, the farmer observed that his cattle had diarrhea. This could be an indicator that the *Setaria* was still too young at this stage.

We interacted with one farmer who used 100% *B. humidicola* to feed his cattle. Accordingly, with *B. humidicola*, his cattle become full faster and would need only half the amount of feed as compared to the native vegetation. Thus he had to spend as much as one whole day gathering native vegetation as feed before; whereas now, he only spends around 2 hours. Moreover, he observed that his cattle consumed a lot more water when fed with the native vegetation.

We also saw some *Brachiaria decumbens* planted in small plots by farmers. The crop looked healthy but was not growing as well compared to areas where they are well-adopted (did not produce as much cover and seemed to be a bit dried out).

The PPL assigned in the area, who will serve as collaborator in the field with LLSP is Mr. Dedir. The nomination was made by the Dinas Peternakan.

For Central Kalimantan, there is a need to do the following:

- a) Put up a list of potential species – these species should be able to tolerate the soil pH and waterlogging. One approach is to find species that can grow well and very productively in the raised beds. Another approach is to find species that can be grown

in the areas that experience more waterlogging (does not need raised bunds). The third approach is to find highly productive short duration forage that can be grown in the dry season.

- b) Devise a scheme on how to get the planting materials across to the area. The planting materials will most likely come from East Kalimantan, Pelai Hari and maybe even Serading and other countries. The input of DGLS in this aspect would be very important. This would include both arrangements of the transport as well as facilitating import permits.
- c) Agree with the collaborators how to best start forage evaluation. Options include testing the forages initially in an area within the Dinas office or directly in farmers' fields. The latter would be preferable but it should be made clear that LLSP can provide only a limited amount of planting materials.
- d) Put up a database for the livestock production data taken from the province. This would be a simple compilation of important data. Together with this could come the list of species that have been tested during the time of Forage Seeds project as well as FSP1 and FSP2. Another worthwhile effort would be to get data on what species have been tested by Mr. Jack Turner during the forage testing Activities that were done with the provincial Dinas Peternakan. Mr. Djodi Suparto could do the compilation of the data from Indonesia (mostly in Indonesian language and would need to be translated), while Papang can do the compilation of the results of the trials of the Forage Seeds Project as well as FSP1 and FSP2.

4. Visit to South Kalimantan

We were not able to meet the Head of Provincial Dinas because she was on trip. However, we were accompanied by one of her staff members.

Pelai Hari

We visited the BPTU in Pelei Hari. We interacted with Mr. Tohir. The FSP trial plots are already abandoned. The BPTU is now keeping animals of different breeds. The forages they have are mainly King Grass (fertilized and used in feeding their animals) and *Gliricidia*. Other species we saw in the station (not well maintained) include *Brachiaria decumbens*, *Brachiaria humidicola*, *Paspalum atratum*, and *Panicum maximum*.

To follow are the comments of Mr. Tohir on the species that he has evaluated in Pelai Hari BPTU:

- i) *P. atratum* and *Cratylia argentea* grew well but were not palatable,
- ii) *Gliricidia sepium* was growing well
- iii) *Centrosema pubescens* grew well (leafy and lot of flowers) but did not produce seed
- iv) *Brachiaria humidicola*, *B. decumbens* and *B. brizantha* grew well

The station was willing to share planting materials to farmers. Planting materials available in the station include:

- B. decumbens* - also plenty on the roadsides along the way from Banjar Baru
- Paspalum atratum* - the plots were burned but the forages are growing back

Potential Site in Kabupaten Tanah Laut

We were able to meet Ir. Soetrisno, the Head of Dinas Peternakan in Kabupaten Tanah Laut. He was interested to collaborate with the project. He assigned one of his staff, Talin Yusuf to work with us. Talin works in the feed and nutrition section of the Dinas. He also lives in the desa where one of the kelompok we visited was located.

We visited three farmer groups (2 in Desa Bhumi Jaya and one in Desa Tirta Jaya) in Kecamatan Pelaihari. All three groups were doing cattle fattening through a credit scheme. The credit source (*bafan*) provided for capital in terms of cattle purchase, housing, and other inputs. The farmers' input was labor and cut-feed. Each farmer takes care of the animals they have loaned from the credit source. One farmer we interacted spends 2-3 hours everyday to tend the animals.

The groups are using UMMB which is manufactured by one of the kelompok and sold at Rp1,500/0.5 kg. The kelompok get 2% from the gross income plus all the proceeds from the sale of manure as fertilizer. The net income is divided between the farmer (60%) and the credit source (40%). One farmer we talked to got 1.5M Rp from 3 cattle he fattened for 6 months. In one of the 3 kelompok, farmers had to hire a truck to gather feed during the dry season. They go up to 50km away just to gather feed. The other 2 kelompok have bigger vacant areas which individual farmers have started to plant with King Grass. It was also observed that *Gliricidia sepium* is growing well in the area.

The area is a typical sloping upland with less fertile soil compared to Sabarang. Water is a problem during the dry season. At the dry season, farmers use rice straw for their cattle. Rice is planted in the valleys. Other crops such as cassava were also planted. There were still a lot of vacant spaces in the sloping areas.

The soil pH was slightly higher than Sabarang (pH5). Potential forage species in the area include those that can tolerate acidity, low fertility and survive the dry season. This might include species like: *Brachiarias*, *Andropogon*, dwarf napier (maybe), stylo (high potential), *Gliricidia* and *Calliandra*.

For South Kalimantan, the following needs to be done:

- a) make arrangements on getting planting materials across to the sites. It was agreed that we try out the forages directly with the *kelompok* since each had an area available near their feedlot buildings. The BPTU at Pelaihari is a good source of *B. humidicola*, *B. decumbens* as well as *P. atratum*. The farmers could be encouraged to plant more *Gliricidia* from the plants that exist in the area. There is a need to source out seeds for legumes such as Stylo and Calliandra and grasses like dwarf Napier and Setaria.
- b) Need to gather secondary data from the provincial and Kabupaten level. This needs to be organized so that informed decisions could be made. Data on soil, climate, livestock population and density are worthwhile to have. Of particular interest would be how the different credit schemes for feedlot cattle fattening works and the performance of the 3 *kelompok*s that we plan to work with.

Trip report to Lao PDR, 5 – 8 Oct 2003

Werner Stür

Objective

- Meet with Phonepaseuth Phengsavanh (Seuth) to discuss progress of LLSP activities in Lao PDR, Cambodia, Vietnam and the seed production training course in Thailand.
- Discussions with Rod Lefroy, Peter Horne, John Connell and other CIAT staff to present the objectives, strategy and implementation of the LLSP Project and consider how the LLSP can best interact and complement other CIAT Projects in the region.
- Meet with Mr. Le Hoa Binh (national LLSP coordinator, Viet Nam), Ms. Vu Hai Yen (site coordinator, Tuyen Quang, Viet Nam), who were passing through Vientiane on their way to the seed production course in Thailand, and Seuth to discuss arrangements for the upcoming Annual Meeting in Tuyen Quang, Viet Nam in January 2004.

People met

- Phonepaseuth Phengsavanh (Seuth)
- Rod Lefroy, Regional Coordinator of CIAT-Asia
- Peter Horne, Project Leader of the Forage and Livestock Systems Project (FLSP), funded by AusAID
- John Connell, Participatory Extension Specialist
- Keith Fahrney, Project Leader of the Participatory Research for Development in the Uplands (PRDU) project, funded by IFAD
- Local CIAT staff and counterparts of the FLSP
- Mr. Le Hoa Binh (National Coordinator of the LLSP in Viet Nam)
- Ms. Vu Hai Yen (Site Coordinator of the LLSP in Tuyen Quang, Viet Nam)

Itinerary

- 5 Oct Meet with Mr. Le Hoa Binh, Ms. Vu Hai Yen (and the participant group from Viet Nam) and Seuth to discuss arrangements for the 2004 Annual Meeting
- 6-8 Oct Discussions at CIAT office in Vientiane, visit NAFRI and the Livestock Research Station of NAFRI in Nam Suang.
- 9 Oct. Depart Vientiane

Summary

The visit took advantage of the presence of W. Stür in Vientiane on a separate assignment. I discussed LLSP project progress and plans with Seuth, particularly in regard to activities in Cambodia and Lao PDR. Seuth and I also met with Mr Binh and Ms Yen to discuss the date for the Annual Meeting in 2004 and initiate arrangements for approvals, field visits, program, etc. Our Vietnamese partners recommended moving the dates for the meeting to mid-February to avoid clashes with the Tet Holiday season in late January. We agreed on a plan for the preparation of the meeting.

Seuth, Peter Horne and I visited NAFRI HQ and the Livestock Research Station at Nam Suang to inspect the living forage germplasm bank and multiplication areas. These were

already well established and showed the enthusiasm of our counterparts at NAFRI to develop Nam Suang as a Center of forage technologies for the region. Progress in Cambodia, Lao PDR and Viet Nam has been satisfactory. The seed production training course is proceeding as planned.

I discussed LLSP plans and activities with Rod Lefroy, Peter Home and other CIAT staff. We explored synergies and differences between projects and agreed on ways of collaborating. There is strong affinity between the LLSP (regional) and the FLSP (bi-lateral livestock extension project) and valuable lessons and experiences can be learnt from each other. The strongest linkage between the projects is via Seuth who is based at the FLSP office and participates in key FLSP activities. Another avenue is to involve Mr John Connell, the participatory extension advisor to the FLSP (part-time), in key activities of the LLSP especially in the development of dissemination methodologies (Output 2 in the LLSP). This would be of great benefit to both projects but particularly for the LLSP. The LLSP needs to find ways of financing John's involvement into the LLSP since John's salary is sourced from project funds, not core.

Trip report to PCARRD, Laguna, 13 – 17 Oct 2003

Francisco Gabunada Jr.

Objective

To participate in a writeshop for the terminal report of the IFAD TAG 443 Project

Key people met

Ana Marie P. Alo – national coordinator, TAG 443 Philippines
Dr. Ernie Brown – TAG 443 team member for socio-economics
Dr. Virginia Venturina – TAG 443 team member for animal health
Emily Lambio – Science Research Specialist for TAG 443

Itinerary

13 Oct 03 Arrival at PCARRD, proceed to the workshop venue at Pansol, Calamba
14-16 Oct 03 Writeshop
17 Oct 03 Depart for LSU

Summary

The TAG 443 Philippine team conducted a writeshop to tackle the following objectives:

- revise a proposal for a new grant from IFAD,
- prepare the final technical report of TAG 443
- prepare a final basket of options on goat health and worm control based on the learnings from the project, and
- prepare Technology Advisory Notes for submission to IFAD

The activity took three days and yielded the proposal for submission to IFAD, the TAG 443 terminal report, the workable basket of options as well as the Technology Advisory Notes for submission to IFAD.

Activities

1. **Revision of the proposal for the new grant from IFAD**

A concept proposal for a new IFAD Grant was drafted by the national coordinator. This was finalized by the team for submission to IFAD. The new proposal will serve to continue the activities of the TAG 443 project. In addition, it would aim to expand the area covered by the project. A new activity will involve the use of farmer livestock school in the sites. This activity took a whole day.

2. **Preparation of the Final Technical Report of the IFAD TAG 443 Project**

The team spent the whole of the second day in writing up the terminal report (final technical report for the TAG 443). The morning was spent in discussing what to write in the terminal report. Then the topics were divided and assigned to each member. The rest of the day was spent in writing up the terminal report.

3. Preparation of Basket of Options to be used for the Next Project

The previous basket of options which the farmers tested in TAG 443 was revised for use both in the next project and for the terminal report. Revision was based on the experiences and modifications made by farmers during the TAG 443 project. The term used for these is workable basket of options, since these were already proven by the farmers involved in the project. The team members tackled each basket one by one as a group. This activity took half a day.

4. Preparation of Technology Advisory Notes for submission to IFAD

IFAD is publishing Technology Advisory Notes which can be accessed in their website. These notes are based on the learnings obtained from the conduct of their various project. The TAG 443 project team drafted six technology advisory notes based on the experiences and learnings from the conduct of the project. These were drafted in the afternoon of the third day.

Trip report to Vietnam, Oct 29 - Nov 3, 2003

Jindra Samson and Phonepaseuth Phengsavanh

Objectives

- Develop market study plan for Daklak with the LLSP Vietnam group
- Join SADU fieldtrip to gain insights on some existing agroenterprise project in Vietnam

People met in Vietnam

LLSP Team Mr. Truong Khanh
Le Hoa Binh

CIAT Agroenterprise Team John Connell
Dai Peters

Itinerary

29 Oct	Travel to Manila – Hanoi
30 Oct.	Field trip to Cat Que and Dong Li eu communes with SADU group
31 Oct.	Brainstorming on the market study with P. Phengsavahn Discussed planning meeting for Nov.1
1 Nov	Meet with LLSP team and John Connelle to discuss market study and methodology
2 Nov	Write market study plan with T. Khahn and L. Binh
3 Nov	Travel back to Manila

Field Trip with SADU Team

We visited Cat Que and Dong Li communes to learn about the livestock and starch enterprises in the area. Many interesting ideas were seen regarding how farmers use various technology options and translate them into some income generating enterprises.

In Dong Li, farmers are into 'got' raising, which is very unique only for this commune. It concentrates on selling piglets rather than raising the animals for fattening or breeding. Farmers claim that area has been one of the limiting factors of the enterprise. Due to lack of space other problems like health, feed source availability and limited production stem out. According to the resource person, farmers in this village are very receptive of different technologies offered by the outsiders (projects), many of the "got" raisers are interested to learn new technologies to improve their production. But according to some raisers, farmers often have the tendency to keep the technology or technique to themselves rather than sharing it with others. This behaviour maybe attributed to the strict competition among farmers.

In Cat Que, it is interesting to note that the starch enterprise has led on to the development of other enterprises related to starch. Many farmers have diversified their enterprise from the starch production to production of the starch equipment, raw materials, processing materials (such as dryers, washer, noodle holders). Area is again the main problem in Cat Que. Most starch producers work in small family enterprises, which means that its is a primarily a

venture passed from one generation to generation. Many families rely on this business as a main source of income. Collection is not a problem for the producers, since most traders come and penetrate the small producers and buy the produce directly. But the issue is on how the commodity is priced. Price is somehow dictated by the traders since very few producers have the access to large companies who are usually the end buyer of the product.

Learnings

- Prices are often dictated by the local traders, farmers have no means of controlling them because each enterprise seems to be distant from one another to influence the market. Competition within the small enterprises are so strong, at some points leads to the fluctuations of the prices. However, no strong groups of farmers have been established in both areas. Maybe if farmers learn to consolidate their group and create a critical mass, maybe they will be able to influence or somehow protect themselves from indiscriminate pricing of the traders.
- Knowledge on the market prices are very crucial, farmers who are able to monitor the prices are the one most likely to develop some scheme or techniques of their production, simply by programming their production based on the season when the product has their highest price.
- Intensive production of one commodity in a small village may lead to stricter competition and lower income generation, maybe it would be good to consider the diversification of the enterprises to other commodities that support the main production
- There is a large tendency for many small scale producers to stick to 'the learned' or the traditional management and technology. In small enterprises, it will also be worthwhile to offer management and technology options that can further improve and make their production more efficient. Perhaps by forming groups, the tendency by farmers to keep the new knowledge as 'secret formula' may be avoided, thus making the knowledge flowing from one farmer to another.
- In any agroenterprise, the different social systems and level of relationships between the farmer and the market (traders, etc.) play vital roles which cannot be ignored
- Possible point of collaboration for LLSP is on the development of methodology on how the SADU team can encourage formation of groups. The participatory approach to develop methods, options and linkages maybe one way to encourage people to form groups or 'cooperative' systems

Market Study Meeting

Before the November 1 meeting, Seuth and I discussed on the different ideas on how we can facilitate the meeting. We developed some discussion points, as shown below to guide us in developing the market study plans for Daklak province:

Discussion Points in the planning meeting in Hanoi for the market study

1. Background of the study from Mr. Khanh regarding his ideas on the market study and how he intends to go about it
2. Brief introduction of the site where Mr. Khanh intends to conduct the market study
3. What Mr. Khanh wants to accomplish in the market study

Since most of the LLSP team are new to the concept of the Agroenterprise jargon, the first sessions of the November 1 meeting were used to level off our thoughts regarding each one's understanding of the term. Most ideas were expressed by sharing different experiences that

were experienced by each one of us. Market concepts from the Agroenterprise workshop were also shared by Mr. Kahn and Seuth, as well by John Connell.

In the meeting, Mr. Khanh discussed about a brief background of the existing cattle production scenario in Ea Kar and M'Drak districts. He also discussed the present production to market chain involved in the area (based in what he knows). Mr. Binh also shared some insights on the general cattle production and marketing trend and policies in Vietnam. We also discussed the study proposal prepared by Mr. Khanh (pls. see appendix 1). Seuth and I lead the discussion on the different options on how we can develop some strategies for the proposed study plan. We also agreed on some points that we have to define clearly like:

1. Objectives of the market study
2. Study boundaries definition (study scope)
3. Main participants or player
4. Methodology ,tools & process to use for the market study
5. Time frame

Emphasis was given to the following points:

1. Methodology for site selection
2. Stakeholder or focus group identification
3. Review of existing information related to the study
4. Methodology development

However, these guidelines were agreed to be just suggestions. Further discussion on the aspect and focus of the methodology development were made, leading to the agreement that the study should focus on the development of farmer participation and capacity building.

Conclusion

The output of the meeting is a proposal on how to conduct the market study (please find appendix 1 for the details) in Daklak. The study will be taken on a step by step basis. Plans and strategies might still change based on the output generated after each steps. Many more issues or product-market opportunities can come out from these activities, perhaps it will be good to focus first on the cattle/beef production then later on take note of the other opportunity aspects. It is however, crucial that each step of the study be documented because it will serve as the basis for future activities & planning.

The focus group selection will be based on several criteria set by the LLSP group, since it is seen difficult or impossible to gather all types of group into one big meeting in Daklak. And also, by using different methodological approach to the different groups we can look at the critical points present in the production to market chain. Time element is also one thing to be considered in selecting tools and methods to use.

Appendix 1: Market study proposal on the livestock opportunities and constraints in Daklak Province

by Truong Khanh, L. H Binh, P. Phengsavanh and J. Samson

Introduction

Ea Kar and M'Drak are two adjoining districts located in the western part of Daklak province. The total area of M'Drak and Ea Kar are 134,840 and 101,890 hectares respectively. Fifty percent of the total area is accounted for forest area, and many parts of M'Drak and Ea Kar are known for their large areas of natural grassland. M'Drak soil type is classified as loam-sandy soil, poor humus, nitrogen and phosphorus sufficient and poor drainage. While Ea Kar is classified as having red soil suitable for perennial industrial crops. The average rainfall in the area is 1700 mm, with about 155 days of rain per year.

Thirty percent of the people living in this district are the indigenous ethnic groups known as the E-de, M'Nong, Gia rai and etc., while the remaining 70% of the population are migrants from the different parts of Vietnam. Majority (70%) of the districts' income are from agriculture activities, while the rest (30%) are from other activities which include services, trade and small enterprises.

Cattle production in both districts is very important since it is one of the traditional and major livelihood sources of income for many farmers. In M'Drak, cattle production ranks the most important source of household income, contributing to about 40 to 50%. In Ea Kar, coffee is the most important agricultural industry while cattle production ranks only second. But with the unstable fluctuations of the coffee market (demands and prices), cattle production still proves to be the most reliable and stable income source of most families in Ea Kar.

In some recent years, many programs have reached the districts and helped farmers to develop various technology options which supported and improved existing livestock production in the area. Some of these programs were the national program on cattle breeding improvement, Forage for Smallholders Project, Provincial and district policies on credit for cattle production and other capacity building and trainings of the provincial-district extensionists. These interventions have encouraged more farmers to invest and venture on cattle production as means to generate more income for their families.

Statement of the Problem

Some sites in Ea Kar and M'Drak are seriously raising cattle to improve their income. Many farmers have been involved in the evaluation and testing of improved forages during the two project phases of FSP, in pursuit of finding options to improve their animal production system. Many have adopted and planted forages, and now practice cut and carry systems as an alternative to the usual grazing system practiced by most farmers in these districts. Cut and carry system has been proved to save on family labour, protects animal from theft, and improve animal health and general condition.

Farmers were generally successful in raising more livestock, which may be attributed to the farmers' improved knowledge in the production aspect. But somehow, despite of their

good cattle production, farmers still find it difficult to market their animals for some reasons unknown to them, thus creating some obstacles in the improvement of their income generation. However, it has been reported in various reports of the district that the market demand for livestock has been increasing and that supply of good quality of animal are insufficient to meet the requirement of many beef markets.

Objectives of the study

The first general objective of the study is to find out the 'unknown reasons' or the critical areas why farmers find it difficult to market their animal products. Also to provide a better understanding of the beef market chain interactions and linkages through the use of the participatory approach, by which the farmers will be the critical players in the conduct of the study. Secondly is to develop participatory methodologies and learnings from the process of the study.

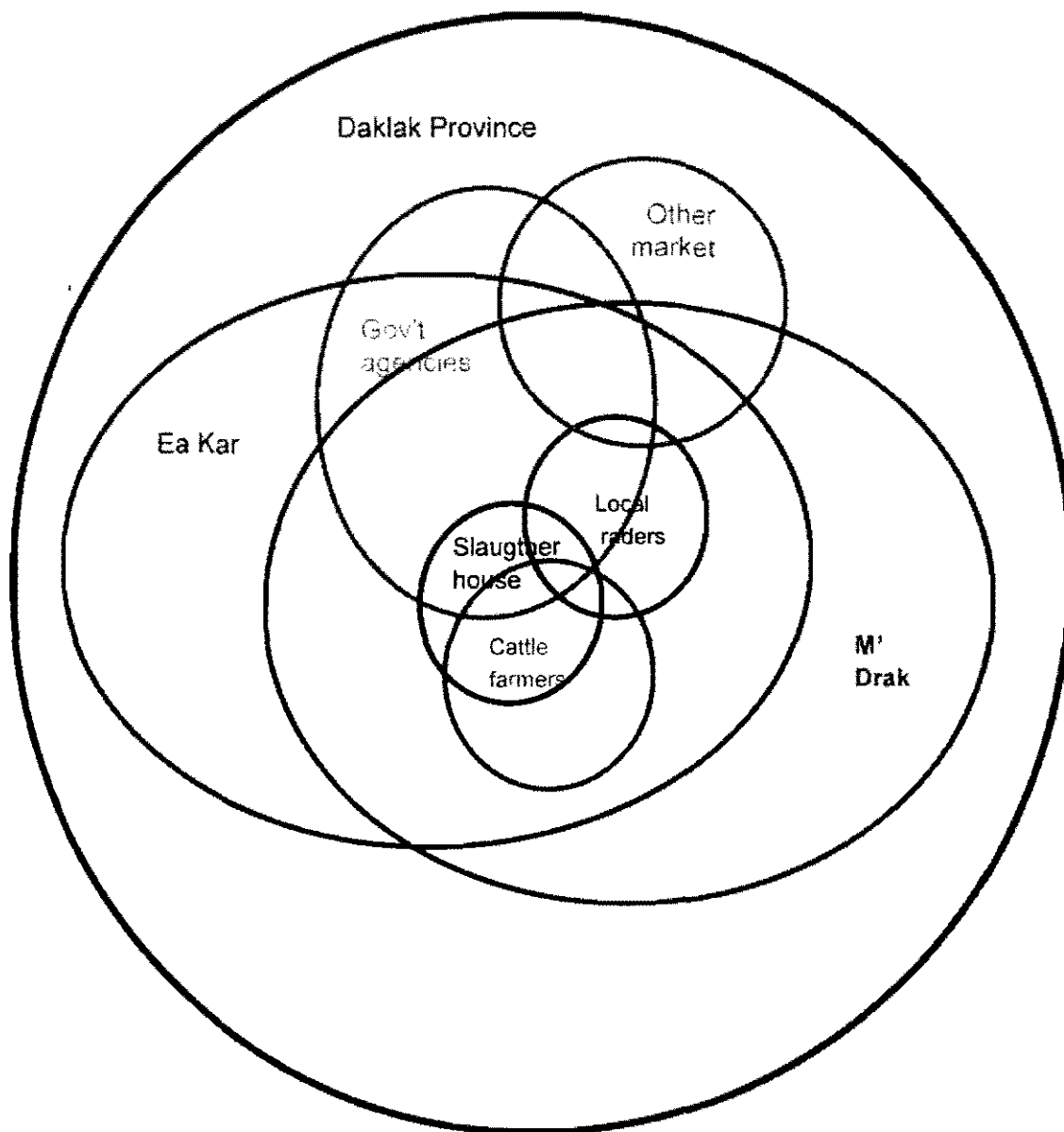
Specific objectives (Khanh)

- To identify national and international market opportunities for beef cattle products
- Gather information on buyer requirements for products which represent market opportunities

Question research

1. What is the production-market chain involved in cattle raising?
2. Who are the players involved in this cattle product-market chain?
3. What are the product types identified from beef production?
4. what are the requirements of the cattle market from the buyers?
5. Where can the cattle products be sold and how are they sold?
6. what are the potentials of the cattle industry?
7. Product-Market matrix?
8. what are the critical points that the market research can offer as an intervention for the project?
9. what are the other possible enterprises, agencies or technologies that may or can support the cattle farmers?
10. Is the agronomy, economic and marketing analysis viable for each identified products?

Stakeholders involved



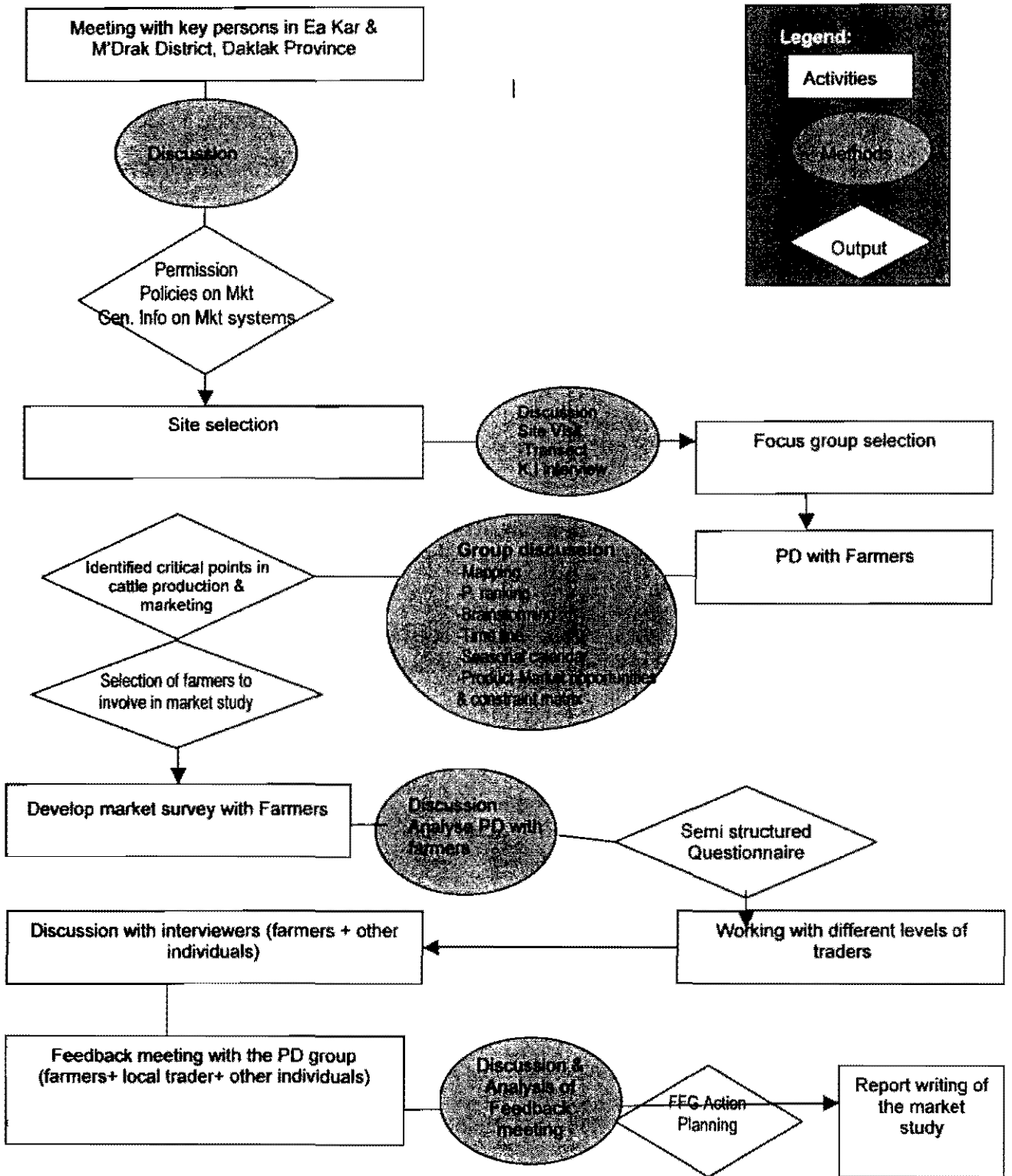
Methodology of the market study

Suggestions on how to conduct the market study (based from discussions of Seuth, Binh, Khanh & Jindra)

Activities	Criteria/contact persons	Output	Methodology	Person in charge	Time table
Meeting with key persons in location	District PC, Agri. Office, Exten., Trader...	<ul style="list-style-type: none"> ▪ Permission ▪ Policies, organization support market study/enterprise. ▪ Information on market systems ▪ Documentation 	Discussion	Khanh,Jindra, Binh & Seuth, Papang	Dec. 15
Site & selection	LLSP site Cattle production	<ul style="list-style-type: none"> ▪ LLSP group + key persons to make decision of the site ▪ Documentation 	discussion Visit site	Khanh	Before Dec.
FG selection	FG1: Farmers who have cattle and sell cattle FG2 : Farmer who buys & sell cattle+ Local traders G3: Other players (local slaughter house, middle men, outside traders) -G4: Agencies, organization, institution supporting Enterprise	<ul style="list-style-type: none"> ▪ FGs ▪ Documentation 	Working with key persons to select farmers base on criteria	Khanh	Before Dec
Participatory Diagnosis with farmers		<ul style="list-style-type: none"> ▪ Identification and awareness of the opportunities & constraints of the production & marketing systems ▪ Identify critical points on production & 	Group discussion <ul style="list-style-type: none"> ▪ <i>Mapping</i> ▪ <i>P. ranking</i> ▪ <i>Brainstorming,</i> ▪ <i>Time line</i> ▪ <i>seasonal calendar</i> ▪ <i>Product – market opportunities & constraints</i> 	Khanh,Jindra, Binh & Seuth, Papang	Dec. 16

Activities	Criteria/contact persons	Output	Methodology	Person in charge	Time table
		<ul style="list-style-type: none"> ▪ marketing ▪ Select farmers who will involve to next step of research ▪ Documentation 	<ul style="list-style-type: none"> ▪ <i>matrix</i> 		
Developing questionnaire with farmers	Selected farmers + LLSP	<ul style="list-style-type: none"> ▪ Semi structured questionnaire ▪ List of people to be interviewed 	<ul style="list-style-type: none"> ▪ Discussion ▪ Pre-test questionnaire (LLSP) ▪ Training of farmers in interview 	Khanh, Jindra, Binh, Seuth and selected farmers	20-21
Working with traders	<ul style="list-style-type: none"> - Traders in different level (volume, markets, places) - Base on information from agencies and farmers 	<ul style="list-style-type: none"> ▪ Market chain ▪ Opportunities and constrains of markets ▪ Market preference ▪ Requirement of the buyers for products ▪ Identify social structure between buyers and sellers ▪ Organize result of questionnaires ▪ -Documentation 	<ul style="list-style-type: none"> ▪ Interview with individual or group traders (semi-structured interview) ▪ <i>Farmers participate in interview</i> 	Khanh, Jindra, Binh, Seuth and selected farmers	5 days for second travel, Jan. 10-14
Discussion with interviewers (farmers + other individual)		<ul style="list-style-type: none"> ▪ Validation of information from the survey ▪ Planning for the feedback meeting 	<ul style="list-style-type: none"> ▪ Brainstorming 		Jan 15-16
Feedback meeting	FG1 + Traders + Institution, organization	<ul style="list-style-type: none"> ▪ Identification of critical points ▪ Develop plan for intervention (production and market side) ▪ -Documentation 	<ul style="list-style-type: none"> ▪ Reporting of farmers ▪ Brainstorming ▪ SWOT analysis ▪ Action planning 	Selected farmers, Khanh, Jindra, Binh & Seuth	Jan. 18 Jan 19
Final Report		<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ 	Jindra & Khanh	Khanh travel to Los Banos
		<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ 		

Study Framework



Trip report to Philippines and Thailand, 2 – 15 Nov 2003

Werner Stür

Objectives

- Participate in an ILRI Workshop on reviewing the IFAD-funded project on "Sustainable Parasite Control" in Manila
- Discuss progress and plans of the LLSP with Jindra Samson, Dea Bonilla and Francisco Gabunada in Los Banos and attend to administrative issues with IRRI
- Participate in a round-table discussion on CIAT-ILRI collaboration in Southeast Asia in Bangkok.

People met

- ILRI Workshop group including D. Gray, Marie Alo, Edwin Villar, Somkiat Saithanoo, Greg Hood, Sorn San, Li, Ani
- LLSP staff Francisco Gabunada, Jindra Samson, and Dea Bonilla
- CIAT and ILRI staff Rod Lefroy, Peter Horne and Doug Gray

Itinerary

1 Nov.	p.m. Arrival in Manila
2 – 7 Nov	ILRI Workshop, Makati and field trip
8 – 9 Nov	CIAT office Los Banos
10-13 Nov	Discussions with LLSP staff
13 Nov	Manila – Bangkok
14 – 15 Nov	CIAT-ILRI Southeast Asia Coordination Meeting
15 Nov	p.m. Depart Bangkok

Summary

The ILRI Workshop and field visit gave me a good understanding of the livestock field school concept used in the ILRI project and of the technical outputs developed. I assisted with the facilitation of the workshop. In addition to reviewing the outputs of the project we discussed options closer ties between CIAT and ILRI by working together at common sites in Cambodia and Laos, and the prospects for expanding this collaboration to new projects.

Papang, Jindra, Dea and I met in Los Banos to discuss progress at LLSP sites, review our strategy for achieving outputs 1, 2 and 4, and agree on plans for the next few months. We discussed plans for the market study in Viet Nam, the visit of Papang to CIAT, plans for a dissemination methodology workshop in Daklak in December or January, the next Annual Regional Meeting and communication issues. I worked with Dea on administrative and financial issues such as the self-insurance model for medical insurance of local staff at IRRI, review of budgets, expenditure and cash-flow needs.

In Bangkok, I met with Rod Lefroy, Peter Horne and Doug Gray to discuss ILRI-CIAT collaboration in Southeast Asia including joint project development. There are excellent prospects for joint proposals and projects including the upcoming ADB PPTA for a participatory livestock project in Lao PDR.

Trip report to Cambodia, Nov 9 - 19, 2003

Jindra Samson and Phonepaseuth Phengsavanh

Objectives

- Conduct a training on Participatory Diagnosis and Evaluation for district technicians in Kompong Cham, Cambodia
- Visit LLSP sites and existing on-farm multiplication plots
- Discuss market study and schedules for Vietnam

People met

Ministry of Agriculture Forestry and Fisheries

- Dr. Sorn San (LLSP National coordinator), Head, National Animal Health and Production Investigation Center
- Mr. Kao Phal, Director, Department of Animal Health and Production

Kompong Cham, Provincial Department of Agriculture, Forestry and Fisheries

- Chea Soucheat, Deputy Chief

Itinerary

- 9 Nov Vientiane – Phnom Penh (Seuth)
- 10 Nov Manila – Phnom Penh (Jindra)
- 11-14 Nov Travel to Kompong Cham Province
Start of Participatory Training with the district technicians
- 15 Nov Field Work in Kompong Cham
Visit to LLSP on-farm multiplication plots
- 16 Nov Travel to Phnom Penh
- 17 Nov Discussion of LLSP activities
- 18 Nov Planning of research activities with Mr. Sorn San
- 19 Nov Return travel to Laos (Seuth) / Philippines (Jindra)

Summary and conclusions

PD training course

All objectives in the course were successfully met. Two technicians with good prospects for working with the LLSP in Kampong Cham are Mr. Lorn Sophal and Mr. Chim Simach.

Participants showed great interests to learn and share experiences in new methods of working with farmers. The time for the course was a little short which restricted the trainers to go for more details. Participants had limited time for deeper reflections and discussion among themselves with regards on how they can use PD in their respective areas. Also, the participants did not have enough time for another field exercise. Time preparation and commitment will be some important considerations for other future trainings.

More on-field activities are recommended to further provide and enhance participants' knowledge and confidence to operationalise participatory approaches on their own. Therefore, learning by doing will be an effective way for all participants to be confident with PD. Since they will need to practice all the tools again when the project conducts another site

selection for the project's expansion in Kampong Cham, which will happen soon. Guidance from the LLSP partners in the conduct of more general/specific PDs and PD analysis may still be needed, and will also provide the project a greater chance of selecting other villages in which the project can work. Further training on participatory extension with the identified district workers is also recommended.

The translated FSP booklets on forage species selection, experimentation and the participatory approaches can provide more information on how to develop forage technologies with farmers. It should be distributed to the province in the soonest possible time.

It was also expressed in the training course that a certificate of attendance should be awarded to the participants for the completion of the course.

Working with local collaborators

To further understand the present process of extension services and activities in Cambodia, it will also be useful to review some agricultural and extension policies involved in the area in which the LLSP project plans to operate.

Working with farmers

The problems occurring for livestock production in the area is not just only feed shortage, but we also found that feeding techniques is also another thing that can be a potential entry point for the project to helping farmers improve their animal management system.

The initial multiplication plot has been successful in attracting interested farmers who find a real need in planting forages. These farmers should be visited and asked about their interest in forages and why they decided to try out the species found in Mr. Teay Sam At's plot.

Participatory Diagnosis and Evaluation Training

Attendance

The training was attended by ten district animal workers from the Tboung Khum, Ponjeakrek, Chamkar Leu, Steing Trang, Cheing Prey, Prey Chhor and Me Mot districts. Among the ten participants, eight have attended the forage agronomy course conducted by the LLSP project last September 1-2, 2003. The participants are the core of the Kampong Cham's Training of Trainers (TOT) group, who were mostly receiving various animal health trainings in the Province. They are also the group that provides extension services and trainings to animal health workers and farmers in their respective districts. All participants in this course are all male.(Please see appendix 1 for the names and details of the participants.)

Training Objectives

- To familiarize the participants on the concepts of the participatory diagnosis and evaluation of technology and research approach
- Provide the participants some experience in facilitating PD with farmers.
- To develop 'learning process' and appreciation among the participants, by building-up and sharing knowledge/experiences in the field of participatory approaches
- Train promising and potential district workers that can work best with LLSP project
- Identify district workers that can work with LLSP project

Training Description

The training duration was five days, four days were held inside the provincial meeting room to discuss about various concepts involved in participatory approach like Participatory Diagnosis, Participatory Evaluation and Facilitation Skill Development (see program schedule in appendix 2). The presentations made were combined with exercises to better facilitate the learning process of the participants in applying the concepts of PA. The course was simultaneously translated by Dr. Sorn San, who has been very effective in delivering the concepts of the training course.

The training has been very dynamic. All participants enjoyed participating in the exercises and expressed spontaneously their thoughts by asking a lot of questions despite the language barrier.

A one day field work was conducted in the village of Cheng Prea for the participants to facilitate an actual PD with the farmers, to (1) test their skills, and (2) apply the tools and concepts learned from the course. The eight participants were assigned to facilitate the different tools in PD, while two participants acted out to observe and document the process.

The two observers were asked to report after the field work. Recollection, observations and sharing of thoughts proceeded to the evaluation of the fieldwork. More questions and issues were raised by the participants. (please see appendix 2 for the training program)

Learnings from the training

The participants in this training course have been selected by the provincial supervisor, engaging district workers that are in the animal health extension services and have long been working with farmers. However, still, the expectations of the participants from the course varied from (1) gaining more knowledge in forage species management, (2) feeding systems, and (3) animal health, only a few stated expectations about the participatory approach. Somehow it provided good some reflections for the facilitators to further strengthen the participants' knowledge in the participatory approach, since the concepts are still new for most of them. The good selection of the participants provided a more meaningful exchange of ideas and experiences that are adept to the topics discussed in the training course. Other mentioned expectations were also tackled in some degree during the presentations of the facilitators. The learning developed in the course did not only provide technical know-how to the participants on participatory approach, but as well provided the facilitators a much deeper understanding of the present extension systems operating in the Province. Understanding further the system and the on going local projects may become an advantage for the LLSP project. There are still a lot of things that the project has to understand.

Most participants in the training course showed a large interest in the participatory approach by asking questions and sharing the different problems they encountered in the field. The participants also want to learn more about the right strategies to deal with different farmers' interest.

The course has to be translated simultaneously from English to Khmer, in which an effective translator like Dr. Sorn San has been very instrumental to the course. The high level of interest among the participants also played an important factor that has overcome the language barrier.

Field Visit to LLSP site

The group was able to visit Mr. Teay Sam At (farmer) in Prey Char commune, Cheng Prea village. He has planted about 135m² of different forage species in his farm. Species planted include Stylo 184, Mulato, Ruzi, Signal, Marandu, Paspalum and Guinea grass. He likes stylo the best among all other species, followed by the Mulato and the Paspalum. But he expressed that his animals do not eat much of the grasses, as compared to stylo which the goats like eating. The farmer described how he feeds the animal by putting the grasses down on the ground. Seuth shared his experiences on goat feeding and explained to the farmer some techniques which some farmers use to get the animals to eat the grasses.

The farmers have expanded his forage area, and planted more the species he prefers at random areas and in mixed style. Thus, making forage evaluation quite difficult for other farmers to see because the planting of the different species had been mixed-up. The different performance of each species has become difficult to distinguish.

Some of the species like Mulato, Paspalum and Stylo 184 showed good performance in the area, but species like the Guinea and Ruzi showed some signs of deficiencies in nitrogen. Even the farmers have been applying back manure in the soil, these two species do not perform well.

In about 2 months time after the multiplication plot was established, about 4 other farmers have been interested and collected planting materials in Mr. Teay Sam At's plot. The new farmers tried testing the forages in their own farms.

The farmer is also experiencing animal health problems with his goat and is interested to learn about treating orf disease in his animals.

Appendix 1. List of participants.

	Name	Gender	Position
1.	Chea Socheat	M	Vice Chief of OAHF
2.	Lorn Sophal	M	Trainer in Tboung Khmum district
3.	Ry Davin	M	Trainer in Tboung Khmum district
4.	Oeur Sereywuth	M	Trainer in Ponjeakrek district
5.	Seng Sorphea	M	Trainer in Ponjeakrek district
6.	Cheun Chett	M	Trainer in Chamkar Leu district
7.	Chim Simach	M	APP in Kampong Cham province
8.	Ann Sinlong	M	Trainer in Steing Trang district
9.	Kong Sambath	M	Trainer in Cheung Prey district
10.	Sreng Sokkheng	M	Trainer in Prey Chhor district
11.	Chieng Sarith	M	Trainer in Me Mot district
12.	Sorn San	M	Translator/ co- facilitator
13.	Phonephaseuth Phengsavanh	M	LLSP Facilitator
14.	Jindra Samson	F	LLSP Facilitator

Appendix 2. Program of training course

Tuesday – November 11 (Seuth)

08.00 – 10.00	Opening Program and Introduction Introduction of participants and resource people Expectations of participants (Card & Chart) What will this course do for you? Presentation of course content and house rules
10.00 – 10.15	Break
10.15 – 12.00	<i>(Jindra)</i> The need of participatory approaches in agricultural development Conventional approach vs. participatory approaches to agricultural development
12.00 – 14.00	Lunch Break
14.00 – 16.30	Basic skills: Neutrality, Listening Basic skills: Questioning, Facilitation, cards and chats and brainstorming.

Wednesday – November 12 (Jindra)

08.00 – 12.00	Principles of Participatory evaluation What is PE? What are the important principles that guide PE? What are the methods available for PE? What is the role of the development worker in PE?
12.00 – 14.00	Break
14.00 – 16.30	Participatory Evaluation Techniques Open-ended evaluation (exercise) Preference ranking (exercise)

Thursday – November 13 (Seuth)

08.00 – 12.00	Participatory Diagnosis 1. Preparation Secondary information collection Village selection Village walk Planning of field activities 2. Problem identification Mapping (exercise) Seasonal calendar (exercise) Historical calendar (exercise) Problem identification (exercise)
12.00 – 14.00	Break
14.00 – 16.30	3. Problem analysis (exercise)

Friday – November 14

08.00 – 16.00	Field work and Discussion of output
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Report of a Trip to CIAT Headquarters, Cali, Colombia 21 Nov – 8 Dec 2003

Francisco Gabunada

Objectives

- 1) Participate in the CIAT Annual Review and Planning Meeting
- 2) Introduction to other CIAT staff, projects and programs (first visit)
- 3) Represent the LLSP in CIAT Planning Meetings
- 4) Initiate contacts with CIAT staff and section for collaboration

People met

Dr. Carlos Lascano Head, Tropical Forages Program of CIAT
Dr. Michael Peters, Dr. Axel Schmidt and Dr. Segenet Kelemu – Tropical Forages Program
Dr. Yves Savidan CIAT Board Member in-charge to review CIAT's forages program
Dr. Rupert Best Agroenterprise Development Program
Two staff of Grupo Papalotla

Itinerary

22 Nov	Sat	Arrival at CIAT
23 Nov	Sun	Meeting of the CIAT-Asia team
24 Nov	Mon	AM – Opening Session CIAT Commissioned External Review, Land Use Initiative
		PM – CIAT Commissioned External Review, Land Use Initiative (cont.)
25 Nov	Tue	AM - Presentations on Rural Innovation PM – Meeting with Agroenterprise Team of CIAT
26 Nov	Wed	Presentations from Africa (Regional Strategy, Cassava, Agrobiodiversity Program) PM – Meeting with the CIAT Forages Team
27 Nov	Thu	AM – TSBF, Land Use Initiative and Amazon Initiative PM – Workshop on COS Funding Opportunities Database
28 Nov	Fri	AM – Asia Regional Strategy; Central America Regional Strategy PM – Workshop on Creating Proposals
1 Dec	Mon	Meeting of Forages Program Committee with Board Representative PM – Meeting with Papalotla
2 Dec	Tue	AM – Annual Internal Review Cassava PM – Visit to CIAT Library
3 Dec	Wed	AM – Leave CIAT

Summary

The annual meeting served as a venue for CIAT to review accomplishments of the different programs and initiatives. For the staff reporting, the trip provided an overall picture of CIAT, its activities and the functional/structural niche occupied by the LLSP. The trip also provided an opportunity to meet with other staff (in our case, the forages program and staff involved in

agroenterprise development), learn about other programs/initiatives as well as facilities which would be useful to do the work in the area of assignment.

CIAT programs and initiatives which the LLSP could benefit from interacting and sharing ideas include the Rural Innovations Institute, the Forages Program (which also have staff working in Honduras on multi-purpose forages), and the agroenterprise development program. Meetings were conducted with the groups and possible areas of collaboration/sharing were discussed. The LLSP may be able to learn from the innovation life histories activity of the Rural Innovations Institute. The Tropical Forages Program would be very useful resource in terms of identifying forages in new LLSP sites that have agroclimatic conditions which we are not very familiar with yet (e.g. Cambodia and Central Kalimantan – flat and floodprone areas). Also, the linkage of the program with Grupo Papalotla (private forage seed company) has paved the way for pilot-testing commercial seed production of Mulato in Thailand. The agroenterprise group would also be a valuable resource in helping the LLSP to implement output 4.

Aside from interacting with staff from other programs in CIAT, access to the library through the CIAT virtual private network was also obtained. This would enable LLSP staff to access CIAT's library resource despite not being based in CIAT. As a result of this trip, all staff of the LLSP in the Philippines and in Lao PDR were provided access to the CIAT Virtual Private Network.

I attended two seminars. One was on writing proposals. The seminar enable the staff not only to learn about proposals but also how proposals get started and the process involved from conception to getting donor support.

The other seminar was on funding opportunities from the Community of Science. The seminar provided an idea on identifying donors interested in certain aspects of research development. Although, most of the seminar consisted of technical details similar to literature search, the discussion that followed revealed a lot of insights, not only on finding sources of funds/support but also how to deal with donors.

Trip report to Luangphabang 22 - 29 Nov 2003

Phonepaseuth Phengsavanh

Objectives

Facilitate a cross-visit and experience-sharing of LLSP staff from Indonesia, China and Vietnam with FLSP partners in Luangphabang, Lao PDR. This cross-visit took advantage of the presence of three LLSP partners in Laos who participated in an English language course. This field visit was organised after the English language training.

People travelling

- Phonepaseuth Phengsavanh (Laos)
- Bounmy Pheovanhkham (Savannakhet, Laos)
- Tang Jun (P.R. China)
- Vu Hai Yen (Vietnam)
- Yakob (Indonesia)

People met

Provincial Livestock and Fisheries Section of Luangphabang

Mr. Sengpasith Thongsavath, Head of the section

Mr. Houmpheng, Deputy Head and LAO-EU Livestock project coordinator

Forage and Livestock Systems Project in Luangphabang

Mr. Soulideth, Provincial coordinator of FLSP

District Agriculture and Forestry Office staff (See attachment 1)

Itinerary

22 Nov	Vientiane – Luangphabang
23 Nov	Visit the historical sites in the Luangphabang town
24 Nov	Meeting with provincial and district staff involved in the FLSP
25 Nov	Visit Houyhia village in Xieng Ngeun district and Phik Yai village, Luangphabang district
26 Nov	Visit Paksy and Naxao villages, Luangphabang district
27 Nov	Visit Hadpang, Pak Ou district and Kokwan, Luangphabang district
28 Nov	Presentations by participants on LLSP activities in China, Vietnam and Indonesia, followed by discussion about experiences on forage technology development
29 Nov	Luangphabang – Vientiane

Summary

The cross visit for the three LLSP partners, who attended a 6-week English language course in Vientiane (Mr. Tang Jun from CATAS, P.R. China; Ms. Vu Hai Yen, Tuyen Quang, Vietnam; Mr. Yakob Pangedongan, East Kalimantan, Indonesia), to FLSP sites in Luangphabang, Lao PDR was organised successfully. The LLSP team and FLSP team (provincial and district staffs) shared and exchanged their experiences on both forage

technology development and how to work successfully with farmers. The LLSP team visited several FLSP sites to learn and exchange experiences about the impact of forage technology development on livelihood of smallholders in the uplands of Lao PDR where some farmers are starting to change their livestock production systems from traditional to a new systems with more inputs to ensure high productivities of livestock, or even in few villages farmers change farming systems from shifting cultivation to permanent livestock production.

Meetings on sharing experiences of forage technology development

The meetings were aimed to enable both teams (LLSP and FLSP) to share their experiences with forage and livestock production development in the region.

The first meeting was held in the Livestock and Fisheries office before visiting the villages. In the meeting, the head of Livestock office briefed participants about the general situation, problems and opportunities for livestock development in the province. Then FLSP team presented the activities of FLSP in the province, starting with methodologies on how to work with farmers each year: How to select villages, how to work with farmer during the year to provide technical advices to farmers and how to facilitate focus group and villages meetings to create an environment for farmers to share their experiences. After that they also talked about forage technology options development and other activities such as animal health and other feed resources for pigs. At the end the FLSP provincial coordinator discussed with the team about the progress and impact of the work at the present time.

LLSP team also shared their experiences on developing forage technologies with farmers in Indonesia, Vietnam and China. Vu Hai Yen particularly shared her experiences on forage development and expansion in Tuyen Quang, where she started with small number of farmers (9 farmers) in 1997 and now the number of farmers in the province increased to more than 2000 farmers. Yakob also shared his experiences with livestock productivity improvement by using improved forages, especially legumes and other feed resources in the areas. General livestock production in China, Indonesia and Vietnam was also discussed.

Visit to the villages

The team visited FLSP sites in three districts of Luangphabang, Xieng Ngeun and Pak Ou. The visit enabled the LLSP participants to interact with farmers and learn more about farming systems in the area, observe how the forages were integrated and utilized on farms.

The LLSP team visited three kinds of villages in term of forage developments in the provinces which few of them are new villages, few have worked with project for about 1-2 years and other are the villages where the impacts are happening.

In the new villages (Ban Pakxi, Ban Naxao), the LLSP team could see the situation of traditional livestock production, where the team also interacted with farmers and district staffs, discussed about general livestock production systems, found out the problems and how have the staffs selected these communities to work in. The livestock kept in these villages is mostly buffaloes, which graze freely in the dry season in the rice field after rice harvesting and also in the forest. In the wet season buffaloes are kept near the house or rice field and farmers cut and carry feed for their animals. The finding feed is more and more difficult and need to go further and further, so farmers decided to try planting forages. Farmers in the new villages are evaluating few varieties of forages mainly *Brachiaria spp* (Marandu, Signal, Mulato), *Panicum maximum* (Simuang) and *Stylosanthes guianensis* CIAT 184. Most of the farmers in these

villages would like to have feed for animals during planting season and also supplements for animals before ploughing time.

In the villages (Ban Pik Yai and Ban Kokwan) where FLSP has worked for a few years, farmers have mostly integrated forages into their farming systems and looking for the best ways of improving their livestock productivities. Farmers plant forages to feed buffaloes and cattle to overcome the problem in the planting season and also in the middle till the end of dry season, when farmers have to prepare they buffaloes for ploughing the land. Apart from that, farmers in these villages use the stylo 184 and also improved varieties of sweet potato for pigs as well. So farmers are able to overcome the feed shortage problems that occur during the year.

In the villages (Ban Houy Hia and Had Pang), farmers have already started to get impact from forages. By planting forages, farmers in these villages have started to change their livestock production systems from free grazing to confinement systems, in which farmers can kept animals near to the villages and provide better management which results in animals grow faster and produce more calves. Farmers in these villages are moving from solving feed problems to improve the productivities of livestock.

Table 1. List of participants attending field trip to FLSP site and meeting on sharing experiences and impressions of the trip in Luangphabang, Lao PDR, on 22-29 Nov 2003

1. Luang Phabang Livestock and Fisheries office (2)
Mr. Sengpasith Thongsavath (Head of Provincial Livestock and Fisheries office)
Mr. Soulideth Phraponsay (FLSP coordinator, Livestock Specialist, Provincial Livestock Office)
2. Luang Phabang district (4)
Mr. Somsak (Extension Officer)
Ms. Thongbay Siesomphone (Extension Officer)
Mr. Vongduen (Extension Officer)
Mr. Kenchanh (Extension Officer)
3. Xieng Ngeun district (2)
Mr. Somvanh Phommali (Extension Officer)
Mr. Bounthanom (Extension Officer)
4. Pak Ou district (2)
Mrs. Chanhsouk (Extension Officer)
Mr. Thongkham Vongpralath (Extension Officer)
5. LLSP (5)
Mr. Phonepaseuth Phengsavanh (Regional coordinator)
Mr. Bounmy Pheovanhkham (LLSP-LAO)
Mr. Yakob Pangendongan (Indonesia)
Mr. Tang Jun (China)
Mrs. Vu Hai Yen (Vietnam)

Trip report to Savannakhet, Lao PDR, 2 - 9 Dec 2003

Phonepaseuth Phengsavanh

Objectives

- To help local staffs to conduct Participatory Diagnosis in villages and collect more information about goat production in the province.

Travelling people

Bounthavone Kounavongsa – LLSP-Laos National coordinator, LRC, NAFRI.

Khamphai Phommavong Provincial FLSP coordinator of Xiengkhuang

Phonepaseuth Phengsavanh – LLSP Subregional coordinator

People met

Mr. Thien Somthaboun	Head of the Provincial Livestock and Fisheries Section of Savannakhet.(PLFS)
Mr Khamchanh Sidavong	Deputy head of PLFS
Mr. Bounmy Pheowankham	Head of Livestock production unit
Mr. Sengphet	Extension worker, Khanthabouly district
Mr. Sykham	Extension worker, Xaybouly district

Itinerary

2 Dec 03	Travel from Vientiane to Savannakhet
3 Dec 03	Meet with head of Livestock and Fisheries Section, and provincial team
4 Dec 03	PD in Tha Oudom village
5 Dec 03	PD in Pak Bo village
6 Dec 03	PD in Ban Boung Thale
7 Dec 03	Go to Xaybouly district to collect more information of goat production
8 Dec 03	Seuth return to Vientiane Bounthavone, Khamphai and the provincial team continued to collect information in Adsphanthong district.
9 Dec 03	Bounthavone, Khamphai travel back to Vientiane

Summary

The visit was focused on conducting PD in the villages where the goat production is the main activity in the villages. Three PDs were conducted in the three villages and the main problem and opportunities to develop on goat production in the area found during the PDs were:

Main problem in goat production

- Diseases (Contiguous ecthyma, post natal weakness, bloat) and parasites are the main problems that cause mortality of goats

Opportunities

- These problems are due to the extensive nature of goat keeping in Savannakhet. The high mortality and low productivity is related to high worm burdens (internal parasites) and poor nutrition. Improvement in goat production requires a dramatic change in the management of animals including housing, improved feeding such as high-quality tree leaves, and strategic drenching. Feeding strategies will be key to this change in management since farmers need feed available for housed animals. Better fed animals will be more resistant to internal parasite infection but strategic de-worming will also be needed to reduce mortality and improve animal performance.

In addition to the PDs, the team also collected more detail information in two districts in order to accomplish the study on goat production in the province. The results of PD and the study of goat production will be presented in the Laos-country report on LLSP activities.

PD in the villages

The team met in the first day to discuss about the tools and also plan for the rest of the trip. As a result of the meeting PDs were conducted in three villages with group of goat raising farmers. The tools used in the PDs were Resource mapping, Seasonal calendar, Wealth ranking, Problem identification and analysis. There was one staff from Forage and Livestock Systems Project (FLSP) who is very experienced in working with farmers to assist LLSP local collaborators to conduct PDs in the sites.

PDs have been done in three villages in Khanthabouly district, where the main activity is agriculture. Farmers practice paddy rice and also livestock. Farmers will sell labour when they are free from agricultural activities. Main animals kept in these villages are buffaloes, cattle, goats with some pigs and poultry. The goat production becomes main activity recently, because of three reasons: (1) High demand and good price. There is very high demand for goat meat in local market and also export to Vietnam. The price for 1 kg of live weight is from 13000-16000 kips compare to 10000 to 12000 kips/kg for cattle and buffaloes. (2) High productivities and quick return. Farmers have mentioned that goats can give three kiddings in two year. Goats will give the first kidding in the age of 1 year compare to cattle and buffaloes about 3-4 years. (3) Low cost for investment, which is good for the poor that can not afford to buy cattle or buffaloes. The number of goats in these villages has been increased in the last few years (it is from 150 to 250 heads per village). Even though, goats are still kept freely in the communal grazing areas and in the forest and there is very low input in goat production.

According to the results of PDs, the main problems identified were:

1. Disease
 - a. Bloat (it occurs two time in the year: May-Jun and Nov-Dec)
 - b. Parasites
 - c. Contagious ecthyma (Orf)
2. Post natal weakness
3. Theft of goats
4. Injury due to dog attacks

However, farmers have also mentioned about the feed problem during the wet season, because goats are tethered to prevent to damage to the crops. Farmers hardly find enough

feed for goats during that time, and goats lose weight more than in dry season when goats are allowed to graze freely.

The opportunities for LLSP to work in this area will be improvement of productivity of the goats. As the growth of the goats graze freely generally is quite slow (It will take about more than 1 year to reach the 19-20 kg, this is as a result of poor and fluctuation of quality of feed over the year and also they are commonly infected by parasites. It will be ideal to work on supplementation of feed (shrub and tree legumes) for growing goats, and there will be a need to work closely with ILRI project in the area whose works are on parasite control and house management.

Collecting information on goat production systems in villages

The team has spent more days in Savannakhet to collect more information for study on goat production systems in the province. The team interviewed individuals in villages in Xayboury and Adsphangthong districts along the road No 9 to Vietnam. The collected information is to confirm other information on weight of animals, reproductive rate and growth performance.

This information will be incorporated into the report of survey on goat production systems in Savannakhet of Lao PDR.

Recommendations for the next step

LLSP-Laos will need to go back to Province again in early next year to conduct more study on production and work closely with enthusiastic farmers to set up on-farm experiments in the target areas on feed supplementation for goats.

Meet with ILRI team and develop plan together how to cooperate in developing goat production in Savannakhet.

The Process – Tools and Methods

The initial activity consisted of a series of meetings with the key stakeholders involved in livestock production and marketing in Daklak. These included (1) authorities, (2) livestock farmers and (3) traders. Each group was met separately to keep participant numbers for each meetings to a manageable size, avoid potential conflicts between stakeholders and allow focused discussion. The meetings were scheduled over 3 days with each meeting lasting half a day with wrap-up sessions and summaries following each meeting. Annex 1 shows the list of participants in each meeting.

The meeting were conducted informal, PRA tools were used followed by open-ended questions to obtain certain types of information. The mode of facilitation used was based on participatory approach.

Working with the Authorities

Selection of Participants: The authorities from the different government and non-government sectors were invited formally by the LLSP site coordinator. The participants were selected based on the important roles/influence they contribute in the livestock sector in the Province. The group comprised of the high position officers from the People's Committee, the economic planning, provincial and district extension offices, private and government banks, livestock farmer union, women-club group and the University.

The following activities were conducted with the authorities, using the different PRA tools

<u>Activities</u>	<u>Tools used</u>
1. Defined the roles and activities of the authorities	-Card and chart
2. Recall history of Livestock Production in Daklak	-Time Line
3. Identify critical points of livestock Production to Marketing Chain	-Mapping, Discussion & -Problem identification
4. Discuss programs/services significant to livestock farmers	-Solution-linkage matching

Working with livestock farmers

Selection of participants: The participants were selected by the district extension officers, representing the different communes in which livestock production is a major source of livelihood.

<u>Activities</u>	<u>Tools used</u>
1. Understanding livestock production to market chain	-Market Chain Mapping
2. Identify problems/critical points in the chain	-Critical points identification
3. Prioritizing problems needed to solve	-Problem ranking
4. Solution identification	-Solution identification and prioritization
5. Discuss farmers experience in livestock trading	-Discussion using open ended questions

Working with livestock traders and farmer-traders

Working with the livestock traders and farmer-traders from the different communes and district followed the same form of activities mentioned above, except that the focus of the discussion centered in finding out major constraints and opportunities of livestock trading and marketing with farmers. Views on how what standards they look for and techniques on how they price animals were discussed. The participants were also asked to draw the livestock market chain, with emphasis on where they buy and sell, what type of livestock products they get the most benefit from. Critical points from traders' perspective were also identified. This lead to the listing of problems/marketing constraints they experience and solutions they suggest to overcome the problems/constraints.

Seasonal calendar of livestock trading

To understand how traders buy and sell livestock, a seasonal calendar was used. Traders were asked to indicate what time of the year they buy or collect, as well as sell cattle. Demand and supply of livestock were also discussed

Opportunities and Constraints in livestock production and marketing in Daklak

Market opportunities identified by traders

- Some traders are willing to buy all kinds of cattle provided that the cattle is good enough to fatten
- There is lack of supply of female cattle
- In some markets, there is a good demand for both cattle grazed on grass and fattened cattle. But most farmers prefer to buy cattle grazed on grass rather than fattened cattle because its cheaper.
- Some markets base the pricing on the body shape of the animals, that is why the price of cattle grazed on grass is lower
- Price of cross bred cattle and local cattle that feeds on grass: cossbred more expensive even if the cattle that feeds on grass is fatter than the cross-bred.
- Buyers from the market prefers buying young meat, the quality of meat depends on the condition how the animals are raised (feed, environment, etc.).
- When selling the crossbred, the benefit is 1.5 times the regular benefit from selling local breeds
- At same body condition, the male cattle higher price than female about 20%. Traders explain that they have to pay fee for veterinary staff go for checking disease before slaughter. This payment calculated per head, while the weight of 1 male cattle can equal to 2 female so the slaughter men only pay half price(for meat)
- The price of old and young cattle is the same if they appear to have the same body condition
- Local cattle easier to buy and sell because its farm gate price is cheaper and local cattle usually fatter than cross breed.

Constraints in livestock production and marketing experienced by farmers

- Low price offered by middlemen – Farmers sell most of their cattle to middlemen, very few farmers sell their cattle to other farmers. Farmers don't

know how to estimate the weight of cattle and middle men always estimate lower than the true value of their cattle, such that most of the time farmer gets very low price. The timing by which farmers sell their cattle depends on their needs for cash (usually used during crisis or when they have some important thing to do). As such, they have to sell to middlemen even though they know it is very cheap. Middlemen come around the village to collect, they become very accessible buyers.

- Lack of market information- Farmers have no established place to sell and buy cattle in which they can get informed pricing based on existing real market prices. Farmers only depend on the information they received from other farmers. Very limited market information on existing and current livestock prices are accessed.
- Lack of technology for keeping and fattening cattle- Many farmers sell their animals in very thin condition or when sick
- Lack of capital- most farmers have little capital to invest in improving breeds of their animals. Transport cost of their animals becomes too expensive when selling just one head of cattle, that is why they sell their animals to the middlemen.
- Disease

Identified critical points

1. Between farmer and middlemen
2. Information on the price and where to sell
3. Middlemen determines the price to give farmers
4. Other markets are too far for farmers to access

Learnings from the activities

Meeting with authority:

A big meeting may not be necessary, since the activity can be done more efficiently by a separate visit to important offices. Since most offices are usually busy, tools should be used in a limited manner. What can be done is to:

1. Visit the high position people to let them know our objectives and ask about the policy and maybe the support organizations in their areas involved in a particular production type or activity.
2. We arrange and meet with organizations that have been mentioned by the authority.
3. Work with these organizations on how they think about the livestock production and market chains in their district. (Discussion and mapping, critical points identification)
4. How many organizations and what support have been provided to the chain (solution identification and listing of contacts)
5. What do they think about problems in the chain and what have been tried so far to solve those problems (Problem identification and analysis)
6. What type of linkage or support their offices can provide (discussion)

Meeting with farmer:

Before meeting with the farmers, a preparatory planning about what information to get and what appropriate tools to use should be determined. Facilitators should have a full understanding of the use of tools and how it can be used to derive the target information. This activity with farmers must be done in the village in order to provide farmers a more relaxed

and familiar environment. Instead of working on a general PD with a lot of farmers selected randomly, a specific PD can be used on a focused group or extension club composed of livestock farmers. The advantage of working with a focus group is that the facilitation of activities can be easier, discussion can be more focused and the planning of activities and its implementation should be practically realistic to be carried out until the objectives are achieved. Monitoring and impact assessment are easier to develop.

Meeting with traders:

Working with traders may be more difficult than working with farmers because of their busy schedule. Working with traders can be done using different strategies such as visiting traders in their common meeting place, or selecting few individual traders to work with, or if possible, set a common scheduled meeting for them. The information from the traders is as important as the information from the farmers. Because the activities of the farmer will have to be linked with the activities of the traders to achieve our objectives. Another possible method for working with traders is to develop the capacity of the focus group farmers to conduct the PD themselves with the traders, so that questions that have the most significance to them will be answered. To do this requires some training and good facilitation from the project team.

Potential entry points for the LLSP

There are several entry points or roles for the project that were identified:

1. Provide market information
2. Provide technology options to improve livestock production
3. Training
4. Develop marketing skills of farmers
5. Provide linkage among farmers, authorities and traders

Annex 1: List of participants in group meetings

1) Authorities and organizations

No.	Names	Position/organization	Place
1	Trinh Tien Bo	Information department	Daklak
2	Tran Thanh Viet	Animal husbandry department	Daklak
3	Nguyen Hai Dong	Information department	Daklak
4	Dr. Tran Quang Han	Animal production	TNU
5	Nguyen Thanh Truc	Economical faculty	TNU
6	Nguyen Van Loc	Vice chairman	Ea Kar
7	Nguyen Thanh Long	Head of Agricultural Department	Ea Kar
8	Huynh Quang Pho	Head of Economical Department	Ea Kar
9	Nguyen Dang Son	Vice rector, Bank of Agriculture and Rural Department	Ea Kar
10	Nguyen Thi Hien	Director, Bank of Investment and Department	Ea Kar
11	Le Quang Truong	Head of Farmer Association	Ea Kar
12	Y But Mlo	Head of Veterinary Office	Ea Kar
13	Hoang Cong Nhien	Extension Officer	Ea Kar
14	Tran Van Dong	Extension Officer	Ea Kar
15	Tran Thi Tho	Head of Women Union	Ea Kar
16	Nguyen Ngoc Dinh	Vice Chairmen	M'Drak

17	Le Van Thieu	Head of Extension	M'Drak
18	Le Thi Thu	Head of Women Union	M'Drak
19	Tran Viet Cuong	Farmer Association	M'Drak
20	Le Thi Tuyet	Extension officer	M'Drak
21	Nguyen Quoc Si	People Committee	M'Drak
22	Vu Van Loi	Veterinary officer	M'Drak
23	Vu Duy Tinh	Farmer Association	M'Drak

2) Traders

No	Name	Commune	District
1	Nguyen Con Son	State farm 714	Ea Kar
2	Pham Huu Luyen	Ea So	Ea Kar
3	Lam Thi Toan	Ea Tyl	Ea Kar
4	Vu Huu Cong	Ea Tyl	Ea Kar
5	Bui Tan Canh	Cu Ni	Ea Kar
6	Tran Van Tu	Cu Ni	Ea Kar
7	Dang Kien Tinh	Ea Da	Ea Kar
8	Pham Duc Canh	Cu Ni	Ea Kar
9	Nguyen Dinh Nguyen	Ea O	Ea Kar
10	Le Van Bo	Cu Hue	Ea Kar
11	Vu Duy Bang	Ea Knop	Ea Kar
12	Nguyen Dam Sanh	Cu Mta	M'Drak
13	Hoang Thij Nga	Cu Mta	M'Drak
14	Tran Van Anh	M'Drak town	M'Drak
15	Dao Viet Huong	M'Drak town	M'Drak
16	Nguyen Cong Dinh	Kron Jin	M'Drak

3) Farmers

No	Name	Commune	District
1	Dao Van Khuyen	Xuan Phu	Ea Kar
2	Nguyen Van Bi	Xuan Phu	Ea Kar
3	Nguyen Quang Non	Xuan Phu	Ea Kar
4	Dao Cong Vu	Xuan Phu	Ea Kar
5	Dao Van Xuan	Xuan Phu	Ea Kar
6	Nguyen Van Mai	Xuan Phu	Ea Kar
7	Vu Thi Phuong	Ea Cmut	Ea Kar
8	Nguyen Van Mai	Ea Cmut	Ea Kar
9	Do Van Cuc	Ea Cmut	Ea Kar
10	Trinh Van Truc	Ea Cmut	Ea Kar
11	Nguyen Van Mang	Ea Cmut	Ea Kar
12	Nguyen Van Hong	Cu Ni	M'Drak
13	Nguyen Van Tuyen	Cu Ni	Ea Kar
14	Mai Phuong	Cu Ni	Ea Kar
15	Nguyen Van Thu	Cu Ni	Ea Kar
16	Ngo Van Quy	Ea Kar	Ea Kar
17	Nguyen Van Dinh	Ea Kar	Ea Kar

Trip report to northern Mindanao, Philippines 14-18 December 2003

Francisco Gabunada Jr.

Objectives

Participate in the annual review and planning workshop of LLSP Philippines

Itinerary

14 Dec -- Depart ViSCA
15 - 17 Dec -- Presentation of Accomplishments and Plans
18 Dec -- Return to ViSCA

Attendance

Eduedo Magboo	LLSP Philippines co-coordinator
Dr. Daniel Paduano	Xavier University
Dr. Luz Soriano	Central Mindanao University
Rosalio Lorono	DA-RFU 10
Milaflor Torrefranca	Impasugong, Bukidnon
Elsie T. Gabunada	Impasugong, Bukidnon
Nida I. Jacutin	Impasugong, Bukidnon
Gemma Cana	Manolo Fortich, Bukidnon
Cynthia Velasco	Manolo Fortich, Bukidnon
Antonio G. Guillermo	Manolo Fortich, Bukidnon
Judith S. Saguinhon	Malitbog, Bukidnon
Gaspar C. Velasco	Malitbog, Bukidnon
Perla T. Asis	Cagayan de Oro City Veterinary Office
Rey S. Dapanas	Cagayan de Oro City Veterinary Office
Fernando S. Lavictoria	Cagayan de Oro City Veterinary Office

Activities and Outcomes

1. Report of Accomplishments at Each Site

All the sites have done visits and meetings with the farmer groups. Activities undertaken during the year were geared mostly on initial description of the sites as well as the production systems they are working with.

The sites and the focused production systems are as follows:

Municipality	Location	Focus Production System	No. of Farmers
Manolo Fortich	New Sangkanan	Growing Dairy Cattle	29
Malitbog	Mindagat	Fattening Cattle	13
Impasugong	Crossing Kitanglad	Cattle for Draft	14
Cagayan de Oro	Dansolihon	Goat Raising	35

The reports were still at the level of giving general description of the sites and the farming system. Most reports have not identified specific problems and opportunities that could lead to experimentation.

2. Planning of Next Activities

The immediate aim of the project is to be able to identify areas which farmers in the sites can develop technologies that could increase the income they derived from their production system. This could probably be through conduct of simple experiments.

As of this stage, the results of the site descriptions were felt insufficient to identify areas for experimentation. The participants likewise need to build up their confidence in facilitating farmer experimentation.

Resource persons from Xavier University, Central Mindanao University and the DA-Regional Field Unit were likewise invited to the meeting. The intention was to solicit their help in developing a manual to be used for field schools with the farmers in the sites. The site collaborators identified the content of the manual by answering the question, "*What are the common questions/issues that farmers asked you?*"

An immediate plan for building capability of site collaborators was the conduct of training in animal nutrition and experimentation. This was scheduled on the last week of January 2004.

Appendix 3: Report of seed production training in Thailand.

REPORT ON
CIAT-LLSP-DLD TRAINING COURSE
FORAGE SEED PRODUCTION
for participants from Vietnam
held at MUKDAHAN, THAILAND
6 - 12 October 2003



Training course on forage seed production

Introduction

This training course "forage seed production" was jointly organized by Animal Nutrition Division, Thai Department of Livestock Development (DLD) and the CIAT-Livelihood and Livestock System Project (LLSP) with fund supported from ADB. It was held at Mukdahan Animal Nutrition Development Station, Thailand, 7 days from 6 - 12 October 2003. All expense for the training course including travel from Vietnam to Thailand was supported by the LLSP Project. There were 10 participants from Vietnam, which consist of 4 farmers and 6 technical officers, and Mr. Le Hoa Binh, LLSP Vietnam Coordinator was the group leader and also the translator.

The course contents of this training emphasized on "Learning by doing" that consisted of practical training more than lecture or theory. We trained on Planting, Managing of seed crops, seed harvesting, drying, cleaning, storing and seed quality test. The course included the visit to commercial Guinea grass seed production by farmers in SakonNakorn and Mukdahan provinces.

The training site is in Northeast region that is famous as the best place for tropical forage seed production. Farmers in this region produce seed of Ruzi grass more than anywhere in the world. This is because of suitable condition for growing pasture seed, such as, good rain for growing season, dry period for harvest seed, and with adopted research to improve the technology of seed production that is very simple and appropriate for farmers. Hopefully, the participants from Vietnam can learn from here and bring this technology of seed production to Vietnam.

Course Objectives

1. gained knowledge in tropical forage seed production
2. enhanced their skills on producing tropical forage seed
3. able to produce tropical forage seed

Course Content

- Establishment and Management of grass seed crops
- Seed harvesting and Drying
- Seed cleaning and Seed storage
- Seed quality and Seed quality control
- Practice on establishment
- Practice of seed harvesting and drying
- Practice on seed cleaning
- Practice on seed quality test (seed moisture, purity and germination)
- Field visit to farmers producing commercial forage seed in Mukdahan and Sakon Nakorn province
- Field visit to Dairy farms in Sakon Nakorn Province

Participants

The training course was designed to cater for ten participants sponsored by CIAT-LLSP. Address of each of 10 participants who attended the course are listed as follows.

Name	Position	Address
Mr.Nguyen Van Ha	Head of Ea Kar Extension office, Daklak Province	Agriculture Extension Department of EAKA Daklak Province,VIETNAM
Mr.Phan Dinh Xuan	Farmer in Village No 8, Ea O Commune, Daklak Province	8 Village,EAO Commune, EAKA District Daklak Province, VIETNAM
Mr.Thai Xuan Quang	Farmer in Village No 12, Cu Ni Commune, Daklak Province	12 Village,Cu Ni Commune EAKA District, Daklak Province VIETNAM
Mrs.Le Thi Tuyet	Staff of M'Dark extension office-Daklak province	Agriculture Extension Department of Madrak Daklak VIETNAM
Mrs.Vu Hai Yen	Deputy head of Agriculture and Rural Development Department of Yen Son District, Tuyen Quang Province	Department of Agriculture and Rural Development Yensin District Tuyen Quang Province VIETNAM
Mrs.Doan Thi Lan	Farmer in Phu Lam Commune, Ham Yen district, Tuyen Quang Province	Phu Lam Commune Yen Son District Tuyen Quang Province VIETNAM
Mr.Le Xuan Binh	Farmer of Duc Ninh commune, Ham Yen District, Tuyen Quang province	Village 22 Duc Ninh Commune Ham Yen District Tuyen Quang Province VIETNAM
Mrs.Phan Thi Phan	Staff of NIAH in Hanoi, working on the field of pasture and forage	National Institute of Animal Husbandry, Tu Liem, Hanoi VIETNAM
Mr.Nguyen Van Quang	Staff of the NIAH in Thai Nguyen province working on the field of pasture and forage of the Animal Husbandry Research and Development Center in Mountainous Zone	The Center of Research and Development Animal Husbandry for Mountainous zone Binh Son Song Cong THAI NGUYEN VIETNAM
Mr.Le Hoa Binh	LLSP coordinator	National Institute of Animal Husbandry THuy Phuoy, Tu Liem, Hanoi VIETNAM

Trainers and course organizing team consisted of:

1. Chaisang Phaikaew
2. Ganda Nakamanee
3. Pimpaporn Pholsen
4. Chirawat Khemsawat
5. Somchit Intharamanee
6. Prapat Budcha

7. Tawat Chitbantao
8. Watanawan Sisomporn
9. Supachai Udchachon
10. Phonpaseuth Phengsavanh

Participants' evaluation of the course

At the end of the training course, participants were asked to complete a simple questionnaire giving their assessment of the content and methodology of the training. In general, the course was rated "very useful" by the participants. Mean of participants' assessments were as follows:

1. Did the course fulfill your expectation in term of content?

a. very useful	100%
b. fair	0%
c. useless	0%

2. How useful were the lectures?

a. very useful	100%
b. fair	0%
c. useless	0%

3. How useful were the demonstrations?

a. very useful	80%
b. fair	20%
c. useless	0%

4. How useful were the practice sessions?

a. very useful	90%
b. fair	10%
c. useless	0%

5. How useful were the field trips?

a. very useful	80%
b. fair	20%
c. useless	0%

Lesson learned

- Learning by doing was the effective way to learn something in case that participants and trainers use different language.
- To make a success of a training course on seed production, it should be conducted at the right time, especially time of seed harvesting. For this time, we planned to see the effect of fertilizer application and effect of seed harvesting method from the practical field. We prepared the field for seed harvesting practice by dividing the *Panicum*

maximum TD58 field into 2 plots, one plot was applied fertilizer, and another plot was not applied fertilizer. From these two plots, each divided into two subplots with two different methods of seed harvesting (1) tied seed head and shake seed head, (2) tied seed head and cover with nylon net bag. If the course was conducted at the right time for seed harvesting, participants could notice the different seed yield from each treatment. Unfortunately, the course was conducted 1 week prior from the actual harvesting time. So practice plan had to be changed by only tying seed head and cover seed head with nylon net bag and shaking some seed head. In this case, participants had been trained on seed harvesting practice but might not see the effect of fertilizer and harvesting method on seed production before the end of course. However, it was difficult to judge the right time to finish harvesting in 7 day course, as the seed harvesting period take about 14 days to finish.

- Selection of Participants: should select the participants who are really interested in the subject related to the training course and have potential to start that activity in their area or have experienced on that activity but faced some constraints and wanted to improve and realized the important of seed production to use on their farms or for selling. Participants in this course were well selected and very keen to learn, that made the course went very well and very successful.
- Good experienced translator was very useful for a training course with different language, not only on English language but also knowledge on forage seed production.