ປະເດັນສຳຄັນໃນການປູກຢາງພາລາ ຂະໜາດນ້ອຍ ຢູ່ໃນແຂວງ ຫລວງພະບາງ ແລະ ອຸດົມໄຊ

Key Issues in Smallholder Rubber Planting in Oudomxay and Luang Prabang Provinces, Lao PDR

Simone Vongkhamor, Khanchana Phimmasen, Bounnao Silapeth, Bounthavy Xayxomphou and Erik Petterson

Edited by Dr. Yayoi Fujita

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Please note that the second phase of Sida to support to NAFRI began in April 2007. The first phase of support, the Lao-Swedish Upland Agriculture and Forestry Research Programme, was from 2002 - March 2007. The second phase has been renamed to the Upland Research and Capacity Development Programme (URDP) to better reflect the increased Lao ownership as well as the broader focus of the second phase. In this study both LSAUFRP has been used to denote the Sida supported programme at NAFRI since the study was carried out primarily during the first phase.

Executive summary

Demand for natural rubber has been rising considerably since the early 1990's, largely due to the booming economies of China and India. Although demand is increasing, rubber prices have risen in the last two years, they are still volatile. In northern Laos, however, the increasing demand for natural rubber in China and the spreading of the success story of rubber planting in Had Nyao village in Luang Namtha province has lead many farmers to invest in rubber planting.

This study assesses the situation of rubber planting in two northern provinces of Laos in Luang Prabang and Oudomxay. The study was undertaken from November 2006 until February 2007 in two districts where the Lao-Swedish Upland Agriculture and Forestry Research Programme (LSUAFRP) is based: Phonexay in Luang Prabang province and Namo in Oudomxay province.

The main objective of the study is to better understand how rubber is being planted in Phonexay and Namo districts and the emerging challenges and opportunities for smallholder rubber development. The study explores four interlinked factors: land management, technical issues, livelihood issues and contract farming. Based on the preliminary analysis, recommendations are given to local decision-makers on the ways to improve rubber planting activities with due consideration to minimizing impacts on local livelihoods and the environment. In addition, the study identifies areas of future research for NAFRI and other research organizations.

Rubber has expanded rapidly in the two districts during the last couple of years and the interest among farmers to plant rubber continues to be high. The study indicates that farmers who choose to plant rubber in general have more access to agricultural land (i.e. paddy field) than those who do not plant. The study also highlights that the main reasons for farmers to start planting rubber is their high expectation on income and their interest in commercial agriculture production. However, the majority of farmers cannot access information on agricultural markets and have not organized themselves into production groups to better take advantage of emerging market opportunities.

The study concludes that farmers in the two districts are interested to plant rubber but if rubber farming is going to be a means to achieve the twin goals of poverty reduction and shifting cultivation stabilisation, a number of issues will need to be further explored and dealt with. The key findings of the study include the following:

Land management issues:

There are increasing conflicts over land as a result of a number of factors. These include the government program to consolidate remote rural villages, promotion of commercial agricultural production and planting of rubber. This expansion has also resulted in decreasing forest cover and the limiting of livestock grazing areas.

The study also revealed that indicative rubber suitability is not being used to plan where rubber is being planted. This is both for farmers planting on their own and for companies who have been granted areas for contract farming. Finally, the study found that there were few procedures in place at the district level for collecting reliable information on where rubber is being planted, what variety and by whom.

Technical issues

The key technical issue is the type of clonal varieties that are being planted in the two districts. Both district staff and farmers cannot certify the variety they are using or where it comes from. In addition, farmers and district staff lack information and knowledge in terms of planting and managing rubber. It was found that there is an immediate need to develop materials on a range of technical issues such as characteristics of different clonal varieties, managing pests and disease and understanding how to carry out grafting. While many farmers are practising intercropping in the first years (before the canopy closes), it is also uncertain how the farmers will off-set income during the years before tapping. Further research on potentials for diversifying agricultural production systems is urgently needed.

Socio-economic issues

Most farmers planting rubber on their own are wealthier farmers that have money and labour to invest. Thus, most farmers did not express concern about food security during the earlier years of planting. However, as rubber rapidly expands into forest and livestock grazing areas, there is concern that relatively less well-off families depending on NTFPs for food and household income will have less options to ensure food security. It was also clear that both farmers and district staff had little knowledge of the market for rubber. Farmers do not know whom to sell to (unless they practice contract farming), what the market price is or how they will sell their products. They are also unaware of the regional trade conditions, such as import tax imposed by the Chinese. Furthermore, there is little discussion on alternatives to rubber and different ways rubber can be introduced to maximize per labour productivity but minimising environmental and economic risks particularly for the poor families in rural areas.

Contract farming issues

Currently, contract farming is only occurring in Namo District. While contract farming offers a viable option for farmers that do not have capital for investment, the contract and the contract development process are still vague and unclear. For the most part, farmers are dissatisfied with the current arrangement with the company, as they were not consulted when the contract between district and the company was signed. This has resulted in a situation where the company (Ying Jiu Pa Company) has found it hard to find farmers willing to participate in the scheme. It is also necessary to develop mechanisms to enforce contracts both on the part of farmers and companies once the parties reach mutual agreement. Finally, contract farming should not limit the options of farmers but be seen as a means to improve the livelihood options of farmers who lack access to credit and are willing to engage in commercial agriculture production.

ບົດສັງລວມຫຍໍ້

ນັບຕັ້ງແຕ່ ຊຸມປີ 1990 ເປັນຕົ້ນມາ ຄວາມຮຽກຮ້ອງຕ້ອງການຢາງທຳມະຊາດ ໄດ້ເພີ້ມຂຶ້ນຢ່າງມະຫາສານ, ຊຶ່ງສ່ວນໃຫຍ່ ມີຜົນມາຈາກການຂະຫຍາຍຕົວຢ່າງວ່ອງໄວ ຂອງເສດຖະກິດ ໃນປະເທດ ຈີນ ແລະ ອິນເດຍ. ເຖິງວ່າ ຄວາມຕ້ອງການຢາງຈະເພີ້ມຂຶ້ນ ມາດົນນານແລ້ວກໍ່ຕາມ, ແຕ່ລາຄາຢາງຫາກໍ່ຖີບຕົວຂຶ້ນ ໃນສອງປີຫຼັງ ແລະ ຍັງບໍ່ທັນມີລັກສະນະຄົງຕົວ. ສ່ວນຢູ່ໃນພາກເໜືອຂອງລາວ ຍ້ອນຄວາມຮຽກຮ້ອງຕ້ອງການຢາງທະມະຊາດ ເພີ້ມຂຶ້ນ ໃນປະເທດ ຈີນ ແລະ ຍ້ອນວ່າ ບົດຮຽນຂອງການປູກຢາງພາລາ ຢູ່ບ້ານຫາດຍາວ, ແຂວງຫຼວງນ້ຳທາ ໄດ້ປະສົບຜົນສຳເລັດສູງ ພາໃຫ້ຊາວກະສິກອນ ຈຳນວນຫຼວງຫຼາຍ ໄດ້ຫັນມາລົງທຶນປູກຢາງພາລາ ຢ່າງເປັນຂະບວນ. ການສຶກສານີ້ ໄດ້ທຳການວິເຄາະເບິ່ງສະພາບການປູກຢາງພາລາ ຢູ່ໃນ 2 ແຂວງ ພາກເໜືອ ຂອງ ສປປ ລາວ, ແຂວງຫຼວງພະບາງ ແລະ ແຂວງອຸດົມໄຊ. ການສຶກສາໄດ້ດຳເນີນຢູ່ໃນລະຫວ່າງ ເດືອນພະຈິກ 2006 ຫາ ເດືອນກຸມພາ 2007 ແລະ ໄດ້ເຮັດຢູ່ໃນສອງເມືອງ ທີ່ເປັນເຂດໂຄງການຄົ້ນຄ້ວາ ກະສິກຳ ແລະ ປ່າໄມ້ ເຂດພູດອຍ ຮ່ວມມື ລາວ-ຊູແອດ ຕັ້ງຢູ່ ຄື: ເມືອງໂພນໄຊ ແຂວງຫຼວງພະບາງ ແລະ ເມືອງນາໝໍ້ ແຂວງອຸດົມໄຊ.

ຈຸດປະສົງຫຼັກ ຂອງການສຶກສານີ້ ແມ່ນເພື່ອໃຫ້ສາມາດເຂົ້າໃຈແຈ້ງຕື່ມ ວ່າມີການປູກຢາງພາລາແນວໃດ ຢູ່ໃນເມືອງນາໝໍ້ ແລະ ເມືອງໂພນໄຊ ແລະ ໃຫ້ຮູ້ໄດ້ວ່າ ການປູກຢ່າງພາລານີ້ ມີສິ່ງທ້າທາຍ ແລະ ໂອກາດແນວໃດ ສຳລັບຄອບຄົວຜູ້ປູກຢ່າງລາຍຍ່ອຍ. ການສຶກສານີ້ ໄດ້ວິເຄາະປັດໃຈສີ່ຢ່າງ ທີ່ມີຄວາມຕິດພັນກັນ ຄື: ການຄຸ້ມຄອງທີ່ດິນ, ບັນຫາດ້ານເຕັກນິກ, ບັນຫາດ້ານການດຳລົງຊີວິດ ແລະ ການຜະລິດກະສິກຳ ແບບເຊັນສັນຍາຜູກພັນ. ອີງໃສ່ຜົນການວິເຄາະໃນຂັ້ນຕົ້ນ, ຂໍສະເໜີຂໍ້ແນະນຳບາງຢ່າງ ແກ່ອຳນາດການປົກຄອງທ້ອງຖິ່ນ ກ່ຽວກັບວິທີການປັບປຸງການປູກຢາງພາລາ ເພື່ອເຮັດໃຫ້ສາມາດຫຼຸດຜ່ອນຜົນກະທົບ ຕໍ່ຊີວິດການເປັນຢູ່ຂອງປະຊາຊົນ ແລະ ສິ່ງແວດລ້ອມ. ນອກຈາກນັ້ນ, ຜົນການສຶກສານີ້ ຍັງສາມາດໃຊ້ເປັນແນວທາງ ໃນການກຳນົດຂົງເຂດການຄົ້ນຄວ້າ ໃຫ້ແກ່ສະຖາບັນ ຄົ້ນຄວ້າ ກະສິ ກຳ ແລະ ປ່າໄມ້, ກໍ່ຄືອົງການຄົ້ນຄວ້າອື່ນໆ ໃນອະນາຄົດ.

ໃນສອງສາມປີຜ່ານມາ ການປູກຢາງພາລາ ໄດ້ຂະຫຍາຍຕົວຢ່າງໄວວາ ຢູ່ໃນສອງເມືອງທີ່ກ່າວ ແລະ ຄວາມສົນໃຈຂອງຊາວກະສິກອນ ທີ່ຢາກຈະສືບຕໍ່ປູກຢາງພາລາ ກໍ່ຍັງມີສູງຢູ່. ການສຶກສານີ້ ຊີ້ໃຫ້ເຫັນວ່າ ຊາວກະສິກອນ ທີ່ຕັດສິນໃຈປູກຢາງພາລາ, ໂດຍທົ່ວໄປແລ້ວ ຈະມີດິນຫຼາຍກວ່າ (ເຊັ່ນ: ດິນນາ) ຜູ້ທີ່ບໍ່ປູກຢາງ. ນອກນັ້ນ, ມັນຍັງຢ້ຳໃຫ້ເຫັນໄດ້ວ່າ ສາຍເຫດຫຼັກທີ່ພາໃຫ້ຊາວກະສິກອນ ລິເລີ້ມປູກຢາງພາລາ ແມ່ນຄວາມມຸ້ງຫວັງຢາກສ້າງລາຍຮັບ ແລະ ມີຄວາມສົນໃຈ ໃນການຜະລິດກະສິກຳ ແບບເປັນສິນຄ້າ. ແຕ່ໂດຍທົ່ວໄປແລ້ວ ຊາວກະສິກອນສ່ວນໃຫຍ່ ບໍ່ຮູ້ຂໍ້ມູນຂ່າວສານກ່ຽວກັບການຕະຫຼາດ ຜົນຜະລິດກະສິກຳ ແລະ ບໍ່ທັນໄດ້ຈັດຕັ້ງກັນເປັນກຸ່ມຜະລິດ ເພື່ອໃຫ້ເຂົາເຈົ້າສາມາດນຳໃຊ້ໂອກາດທາງດ້ານການຕະຫຼາດທີ່ເກີດຂຶ້ນ ໃຫ້ເປັນປະໂຫຍດສູງສຸດ.

ຜ່ານການສຶກສານີ້ ສາມາດສະຫຼຸບໄດ້ວ່າ ຊາວກະສິກອນໃນສອງເມືອງນີ້ ມີຄວາມສົນໃຈປູກຢາງພາລາ, ແຕ່ຖ້າຈະຄິດວ່າ ການປູກຢາງພາລາ ຈະກາຍເປັນພາຫານະນຳໄປສູ່ການບັນລຸຜົນຕາມເປົ້າໝາຍທັງສອງຢ່າງ ເຊັ່ນ: ການຫຼຸດຜ່ອນຄວາມທຸກຍາກ ແລະ ການຍຸດຕິການຖາງປ່າເຮັດໄຮ່ໄດ້ນັ້ນ ມີຄວາມຈຳເປັນ ຕ້ອງໄດ້ສືບຕໍ່ສຶກສາ ແລະ ແກ້ໄຂ ໃນປະເດັນບັນຫາຕ່າງໆ ອີກຫຼາຍດ້ານ.

1. ບັນຫາກ່ຽວກັບການຄຸ້ມຄອງທີ່ດິນ:

ການນຳໃຊ້ທີ່ດິນ ນັບວ່າມີຂໍ້ຂັດແຍ່ງຢູ່ຫຼາຍຢ່າງ ທີ່ມີຜົນມາຈາກຫຼາຍໆປັດໃຈ ຊຶ່ງລວມທັງແຜນການເຕົ້າໂຮມບ້ານຂອງລັດ, ການສົ່ງເສີມການຜະລິດເປັນສິນຄ້າ ແລະ ການສົ່ງເສີມການປູກຢາງພາລາ. ນອກຈາກນັ້ນ, ການຂະຫຍາຍການຜະລິດກະສິກຳນີ້ ຍັງເປັນການຫຼຸດເນື້ອທີ່ປ່າໄມ້ ແລະ ເຂດທົ່ງຫຍ້າລ້ຽງສັດລົງອີກດ້ວຍ. ນອກຈາກນັ້ນ, ການສຶກສານີ້ ຍັງຊີ້ໃຫ້ເຫັນວ່າ ການປູກຢາງພາລາຍັງບໍ່ທັນໄດ້ນຳໃຊ້ມາດຖານ ທີ່ບົ່ງບອກເຖິງຄວາມເໝາະສົມຂອງສະຖານທີ່ປູກຢາງ, ບໍ່ວ່າແຕ່ຊາວກະສິກອນ ທີ່ປູກຢາງຢູ່ໃນພື້ນທີ່ຂອງຕົນເອງ, ກໍ່ຄືບໍລິສັດທີ່ໄດ້ຮັບການສຳປະທານທີ່ດິນ ເພື່ອປູກຢາງພາລາແບບເຊັນສັນຍາຜູກພັນ ກໍ່ເຊັ່ນດຽວກັນ. ສຸດທ້າຍ, ການສຶກສາຍັງເຫັນວ່າ ໃນລະດັບເມືອງ ຍັງບໍ່ທັນມີຫຼັກການ ແລະ ວິທີການເພື່ອໃຊ້ເປັນທິດທາງ ສຳລັບການເກັບກຳຂໍ້ມູນທີ່ເປັນໜ້າເຊື່ອຖືໄດ້, ໂດຍສະເພາະ ຂໍ້ມູນກ່ຽວກັບສະຖານທີ່ປູກຢູ່ໃສ, ນຳໃຊ້ຊະນິດພັນໃດແດ່ ແລະ ໃຜເປັນຜູ້ປູກ.

2. ບັນຫາທາງດ້ານເຕັກນິກ:

ບັນຫາຫຼັກທາງດ້ານເຕັກນິກ ແມ່ນກ່ຽວກັບປະເພດຂອງແນວພັນທີ່ນຳມາປູກ ຢູ່ໃນສອງເມືອງ. ບໍ່ວ່າແຕ່ພະນັກງານເມືອງ ກໍ່ຄືຊາວກະສິກອນ ຕ່າງກໍ່ພາກັນບໍ່ສາມາດຢັ້ງຢືນໄດ້ວ່າ ແນວພັນທີ່ນຳມາປູກນັ້ນ ເປັນຊະນິດພັນໃດ ແລະ ມີແຫຼ່ງກຳເນີດມາຈາກໃສ. ຍິ່ງໄປກວ່ານັ້ນ, ພະນັກງານເມືອງ ແລະ ຊາວກະສິກອນ ຍັງຂາດຂໍ້ມູນດ້ານຄວາມຮູ້ ກ່ຽວກັບການປູກ ແລະ ການຄຸ້ມຄອງຢາງພາລາ. ໃນນີ້ ເຫັນໄດ້ວ່າ ມັນມີຄວາມຈຳເປັນອັນຮີບດ່ວນ ທີ່ຕ້ອງໄດ້ພັດທະນາປຶ້ມຄູ່ມື ແນະນຳກ່ຽວກັບບັນຫາວິຊາການຫຼາຍຢ່າງ ເຊັ່ນ: ຄຸນຫຼັກສະນະຂອງຊະນິດພັນຕ່າງໆ, ການຄວບຄຸມ ແລະ ປາບສັດຕູພືດ ແລະ ຄວາມເຂົ້າໃຈກ່ຽວກັບວິທີການຕິດຕາຢາງພາລາ ເປັນຕົ້ນ. ເຖິງວ່າ ໃນຊຸມປີທຳອິດ ຊາວກະສິກອນ ທຳການປູກຢາງພາລາ ປະສົມປະສານກັບພືດອື່ນ (ກ່ອນເຮືອນຍອດຈະປົກຄຸມເນື້ອທີ່) ກໍ່ຕາມ, ແຕ່ຍັງບໍ່ທັນມີຄວາມໝັ້ນໃຈໄດ້ວ່າ ຊາວກະສິກອນຈະສາມາດສ້າງລາຍຮັບ ຢູ່ໃນໄລຍະເວລາທີ່ເຫຼືອ ກ່ອນຈະສາມາດກີດເອົາຢາງມາຂາຍໄດ້. ດັ່ງນັ້ນ, ມັນມີຄວາມຈຳເປັນ ຕ້ອງໄດ້ສຶບຕໍ່ສຶກສາເບິ່ງຄວາມອາດສາມາດ ໃນການນຳໃຊ້ລະບົບກະສິກຳ ແບບປະສົມປະສານ ຢູ່ໃນສວນຢາງພາລາ ໄດ້ຄືແນວໃດ.

3. ບັນຫາດ້ານເສດຖະກິດ-ສັງຄົມ:

ຊາວກະສິກອນທີ່ປູກ ແລະ ມີສວນຢາງພາລາເປັນຂອງຕົນເອງ ສ່ວນໃຫຍ່ເປັນຜູ້ມີຖານະດີ, ມີເງິນ ແລະ ມີແຮງງານພຽງພໍ. ດັ່ງນັ້ນ, ເຂົາເຈົ້າຈຶ່ງບໍ່ໄດ້ສະແດງຄວາມກັງວົນ ກ່ຽວກັບຄວາມຮັບປະກັນທາງດ້ານສະບຽງອາຫານ ໃນໄລຍະກ່ອນການກີດຢາງແຕ່ຢ່າງໃດ. ແຕ່ໃນເມື່ອເນື້ອທີ່ປູກຢາງພາລາຂະຫຍາຍຕົວຢ່າງວ່ອງໄວ ເຂົ້າໄປຍັງເນື້ອທີ່ປ່າໄມ້, ຊາວກະສິກອນທີ່ມີຖານະບໍ່ດີ ທີ່ອາໃສເຄື່ອງປ່າຂອງດົງເປັນອາຫານ ແລະ ເປັນແຫຼ່ງລາຍຮັບ ຈະມີທາງເລືອກໜ້ອຍລົງ ໃນການຄ້ຳປະກັນທາງດ້ານສະບຽງອາຫານ ເປັນເຫດໃຫ້ເຂົາເຈົ້າເລີ້ມມີຄວາມກັງວົນຫຼາຍຂຶ້ນ.

ເປັນທີ່ຈະແຈ້ງຢູ່ແລ້ວວ່າ ຊາວກະສິກອນ ແລະ ພະນັກງານເມືອງ ຍັງມີຄວາມຮູ້ຕ່ຳ ກ່ຽວກັບຕະຫຼາດຢາງພາລາ. ເຂົາເຈົ້າຍັງບໍ່ທັນຮູ້ວ່າ ຈະຂາຍຜົນຜະລິດໃຫ້ໃຜ (ຍົກເວັ້ນກໍລະນີເຮັດສັນຍາຜູກພັນກັບບໍລິສັດ), ມີຕະຫຼາດຄືແນວໃດ ຫຼື ເຂົາເຈົ້າຈະຂາຍຜົນຜະລິດຄືແນວໃດ. ນອກຈາກນັ້ນ ເຂົາເຈົ້າກໍ່ຍັງບໍ່ທັນຮູ້ສະພາບການຕະຫຼາດ ຢູ່ໃນພາກພື້ນ ເຊັ່ນ: ການເສຍພາສີສົ່ງອອກ ທີ່ທາງປະເທດຈີນ ເປັນຜູ້ເກັບ. ຍິ່ງໄປກວ່ານັ້ນ, ກໍ່ຍັງບໍ່ທັນໄດ້ເວົ້າເຖິງທາງອອກຕ່າງໆ ກ່ຽວກັບຢາງພາລາ ແລະ ວິທີການປູກຢາງພາລາແບບອື່ນ ຊຶ່ງມີການໃຊ້ແຮງງານທີ່ມີປະສິດທິຜົນ

ດີກວ່າ ທັ້ງເປັນການຫຼຸດຜ່ອນຄວາມສ່ຽງ ທາງດ້ານສິ່ງແວດລ້ອມ ແລະ ທາງດ້ານເສດຖະກິດ, ໂດຍສະເພາະ ສຳ ລັບຄອບຄົວທຸກຍາກ ໃນເຂດຊົນນະບົດ.

4. ບັນຫາກ່ຽວກັບສັນຍາຜູກພັນການຜະລິດ:

ມາເຖິງປະຈຸບັນນີ້, ການເຮັດສັນຍາຜູກພັນ ເພື່ອປູກຢາງພາລາ ຫາກໍ່ເກີດມີຂຶ້ນ ຢູ່ເມືອງນາໝໍ້. ການເຮັດ ສັນຍາຜູກພັນແບບນີ້ ເປັນທາງເລືອກທີ່ເປັນໄປໄດ້ ສຳລັບຊາວກະສິກອນທີ່ຂາດທຶນຮອນ ໃນການລົງທຶນ, ແຕ່ມາ ເຖິງປະຈຸບັນ ບໍ່ວ່າແຕ່ເງື່ອນໄຂສັນຍາ ກໍ່ຄືຂະບວນການເຮັດສັນຍາດັ່ງກ່າວ ຍັງເຫັນວ່າມີລັກສະນະຫຼົ່ມໆ ແລະ ບໍ່ ຈະແຈ້ງ. ໂດຍສ່ວນໃຫຍ່ເຫັນວ່າ ຊາວກະສິກອນບໍ່ພໍໃຈກັບການຈັດການຂອງບໍລິສັດ ເພາະວ່າ ທາງບໍລິສັດບໍ່ໄດ້ ປຶກສາຫາລືກັບເຂົາເຈົ້າ ກ່ອນບໍລິສັດຈະໄປເຊັນສັນຍາກັບເມືອງ.

ສະພາບການອັນນີ້ ໄດ້ສົ່ງຜົນເຮັດໃຫ້ບໍລິສັດ (ບໍລິສັດ ຢິງຈຸຍປາ) ພົບຄວາມຫຍຸ້ງຍາກ ໃນການຊອກຫາ ຊາວກະສິກອນ ຜູ້ທີ່ມີຄວາມສົນໃຈເຂົ້າຮ່ວມໃນໂຄງການ. ນອກນັ້ນ, ພາຍຫຼັງທີ່ທັງສອງຝ່າຍສາມາດຕົກລົງ ເຊັນ ສັນຍາຮ່ວມກັນໄດ້ແລ້ວ, ມັນຍັງມີຄວາມຈຳເປັນຕ້ອງໄດ້ສ້າງກົນໄກ ເພື່ອບັງຄັບໃຊ້ເງື່ອນໄຂສັນຍາໃນສອງສ່ວນ ຄື ສ່ວນຂອງຊາວກະສິກອນ ແລະ ສ່ວນຂອງບໍລິສັດ ກໍ່ຄືກັນ. ສຸດທ້າຍ, ສັນຍາຜູກພັນການຜະລິດ ບໍ່ຄວນເຮັດໃຫ້ມັນ ຈຳກັດ ທາງເລືອກຂອງຊາວກະສິກອນ, ແຕ່ໃຫ້ຖືວ່າ ມັນເປັນເຄື່ອງມືສຳລັບການປັບປຸງຊີວິດການເປັນຢູ່ ຂອງຊາວ ກະສິກອນ ທີ່ເຂົ້າບໍ່ເຖິງລະບົບສິນເຊື່ອ ແຕ່ຢາກເຂົ້າຮ່ວມຂະບວນການຜະລິດກະສິກຳ ເປັນສິນຄ້າ.

5. ສະຫຼຸບ ແລະ ຂໍ້ສະເໜີແນະນຳ:

ເຖິງວ່າ ຢາງພາລາ ອາດຈະເປັນແຫຼ່ງລາຍຮັບອັນສຳຄັນ ສຳລັບຜູ້ມີສ່ວນຮ່ວມຕ່າງໆ ໃນ ສປປ ລາວ ໃນອະນາຄົດ, ແຕ່ມີຫຼາຍເຫດຜົນ ທີ່ຈະຕ້ອງໄດ້ລະມັດລະວັງ ຖ້າຈະສົ່ງເສີມການປູກຢາງໃຫ້ເປັນທາງອອກ ໃນ ການລຶບລ້າງຄວາມທຸກຍາກ ຢູ່ເຂດຊົນນະບົດ. ການສຶກສາຄັ້ງນີ້ ຊີ້ໃຫ້ເຫັນວ່າ ຊາວກະສິກອນລາຍຍ່ອຍ ທີ່ເຂົ້າ ຮ່ວມການປູກຢາງພາລາ ໃນປະຈຸບັນ ແລະ ຜູ້ທີ່ມີແນວໂນ້ມຈະໄດ້ຮັບຜົນປະໂຫຍດສ່ວນໃຫຍ່ ແມ່ນຜູ້ທີ່ມີຖານະດີ ທີ່ມີທັ້ງທີ່ດິນ ແລະ ທຶນຮອນ. ນອກຈາກນັ້ນ, ການຂາດການປະສານງານ ແລະ ການຂາດຂະບວນການອັນຈະ ແຈ້ງ ເພື່ອປູກຢາງພາລາຂະໜາດນ້ອຍ ຍັງສົ່ງຜົນອັນບໍ່ດີຕໍ່ຊັບພະຍາກອນທຳມະຊາດ ແລະ ທາງເລືອກໃນການ ດຳລົງຊີວິດຂອງປະຊາຊົນທ້ອງຖິ່ນ ອີກດ້ວຍ.

ພາກຕໍ່ໄປນີ້ ຈະໄດ້ສະເໜີບັນດາຂໍ້ແນະນຳຂັ້ນຕົ້ນ ເພື່ອນຳເອົາໄປສຶບຕໍ່ປຶກສາຫາລື ກັບບັນດາຜູ້ມີສ່ວນ ຮ່ວມສຳຄັນຕ່າງໆ ຢູ່ໃນສະຖານັ ຄົ້ນຄວ້າ ກະສິກຳ ແລະ ປ່າໄມ້, ກອງສົ່ງເສີມ ກະສິກຳ ແລະ ປ່າໄມ້, ແລະ ຢູ່ໃນສອງເມືອງ ເພື່ອເປັນພື້ນຖານສຳລັບການສ້າງແຜນການດຳເນີນງານ ທີ່ມີຄວາມເປັນຈິງໃນຕໍ່ໜ້າ.

5.1 ການຄຸ້ມຄອງທີ່ດິນ:

ໃນເມື່ອການເຄື່ອນຍ້າຍຂອງປະຊາຊົນ ຢູ່ໃນ ສປປ ລາວ ບໍ່ແມ່ນເຫດການທີ່ຫາກໍ່ເກີດຂຶ້ນ ໃນມື້ນີ້ ຫຼື ມື້ວານ, ດັ່ງນັ້ນ ຈຶ່ງມີການຈັດຕັ້ງປະຕິບັດໂຄງການຍົນຍ້າຍ ແລະ ຕັ້ງຖິ່ນຖານໃໝ່ຂອງປະຊາຊົນມາແລ້ວ ໃນເວ ລາຍາວກວ່ານຶ່ງທົດສະວັດ. ການປະຕິບັດດັ່ງກ່າວນີ້ ພາໃຫ້ມີການເຕົ້າໂຮມປະຊາຊົນ ສ່ວນໃຫຍ່ເລາະລຽບໄປຕາມ ເສັ້ນທາງ. ການສຶກສາຜ່ານມາ ຫຼາຍຢ່າງໄດ້ອ້າງວ່າ ບັນດາບັນຫາທີ່ຕາມມາ ຈາກການເຕົ້າໂຮມປະຊາຊົນຈຳນວນ ຫຼວງຫຼາຍ ຢູ່ບ່ອນໃດບ່ອນນຶ່ງເຊັ່ນນີ້ ພາໃຫ້ເກີດມີການແກ້ງແຍ້ງແຂ່ງຂັນ ໃນການນຳໃຊ້ທີ່ດິນການຜະລິດ ແລະ

ການນຳໃຊ້ຊັບພະຍາກອນທຳມະຊາດ (ອ້າງອີງໃສ່ Vandergeest 2003, Evrard and Goudineau 2004). ນອກຈາກນັ້ນ, ການເພີ້ມຂຶ້ນຂອງໂອກາດທາງດ້ານການຕະຫຼາດ ພາໃຫ້ການແກ້ງແຍ້ງແຂ່ງຂັນ ລະຫວ່າງ ທີ່ດິນກະສິກຳ ແລະ ທີ່ດິນທີ່ໃຊ້ໃນການຊຸກຍູ້ການຫັນເປັນເອກະຊົນ ຫຼຸດລົງ. ການນຳໃຊ້ທີ່ດິນແບບກະເສດສຸມ ຮຽກຮ້ອງໃຫ້ນຳໃຊ້ທຶນຮອນ ແລະ ປັດໃຈຂາເຂົ້າສູງກວ່າ, ດັ່ງນັ້ນ, ປະຊາຊົນຜູ້ທີ່ມີຖານະດີ ຈະເປັນຜູ້ໄດ້ປຽບໃນການຫັນໄປເຮັດການຜະລິດແບບເອກະຊົນ ໃນຂະນະທີ່ຜູ້ທີ່ມີຖານະທຸກຍາກ ທີ່ອາໃສການນຳໃຊ້ທີ່ດິນສ່ວນລວມ ແລະ ຊັບພະຍາກອນທຳມະຊາດ ຈະກາຍເປັນຜູ້ເສຍປຽບ.

ບັນຫາທີສອງ ແມ່ນການຂາດການພິຈາລະນາເງື່ອນໄຂທາງດ້ານກາຍະພາບ ແລະ ສັງຄົມ ພາໃຫ້ມີການປູກຢາງພາລາ ໃນເນື້ອທີ່ດິນທີ່ບໍ່ເໝາະສົມ. ເພື່ອຍົກບັນຫາຂຶ້ນມາໃຫ້ມັນຈະແຈ້ງຂຶ້ນຕື່ມ, ໃນຄວາມເປັນຈິງແລ້ວ ພະແນກກະສິກຳ ແລະ ປ່າໄມ້ ແຂວງຫຼວງພະບາງ ແລະ ຫ້ອງການສົ່ງເສີມ ກະສິກຳ-ປ່າໄມ້ເມືອງໂພນໄຊ ມີການແນະນຳໃຫ້ປູກຢາງພາລາ ຕາມລະດັບຄວາມສູງຂອງໜ້າດິນທີ່ແຕກຕ່າງກັນ ໃນລະດັບອັນກ້ວາງໆ ໂດຍບໍ່ເຂົ້າໃຈຢ່າງເລິກເຊິ່ງວ່າ ດິນປະເພດໃດມີຄວາມເໝາະສົມທີ່ສຸດສຳລັບການປູກຢາງພາລາ. ນອກນັ້ນ, ມັນເປັນທີ່ຈະແຈ້ງຢູ່ແລ້ວວ່າ ຢາງພາລາ ບໍ່ແມ່ນພືດທີ່ເຄີຍປູກກັນມາຕາມປະເພນີ, ດັ່ງນັ້ນ ຊາວກະສິກອນ ຈຶ່ງບໍ່ມີຄວາມຮູ້ດີກ່ຽວກັບຢາງພາລາມາກ່ອນ.

ບັນຫາທີສາມ ກ່ຽວຂ້ອງກັບການຈັດສັນທີ່ດິນ ສຳລັບການປູກຢາງພາລາແບບເຊັນສັນຍາຜູກພັນ ຫຼືການອະນຸຍາດໃຫ້ນັກລົງທຶນເຮັດວຽກກັບຊາວບ້ານ. ເຖິງວ່າການເຊັນສັນຍາຜູກພັນເພື່ອປູກຢາງພາລາ ສາມາດສະໜອງປັດໃຈຂາເຂົ້າທີ່ຈຳເປັນແກ່ຊາວກະສິກອນ ອັນພາໃຫ້ເຂົາເຈົ້າໄດ້ຮັບຜົນປະໂຫຍດທາງດ້ານການເງິນແທ້ກໍ່ຕາມ ແຕ່ສະພາບການທີ່ເປັນໄປຢູ່ໃນປະຈຸບັນ ບໍ່ໄດ້ຮັບປະກັນຄວາມໝັ້ນຄົງໃນໄລຍະຍາວ ແກ່ຊາວກະສິກອນແຕ່ຢ່າງໃດ. ດັ່ງນັ້ນ, ມັນມີຄວາມຈຳເປັນ ຕ້ອງໄດ້ຄຳນຶງເຖິງຄວາມຈຳເປັນທາງດ້ານຊັບພະຍາກອນ ອັນເປັນພື້ນຖານຂອງປະຊາຊົນທ້ອງຖິ່ນ ຊຶ່ງໃນນັ້ນ ຈະລວມເອົາທັງໄມ້ຟືນ ແລະ ເຄື່ອງປ່າຂອງດົງ ປະເພດຕ່າງໆ ສຳລັບເປັນອາຫານ, ການສ້າງລາຍຮັບແກ່ຄອບຄົວ ແລະ ເນື້ອທີ່ທົ່ງຫຍ້າລ້ຽງສັດໃຫຍ່. ເວົ້າລວມແລ້ວ, ຫຼັກການທີ່ໃຊ້ໃນການອະນຸມັດການລົງທຶນຕ່າງປະເທດ ທີ່ມາເຮັດສັນຍາຜູກພັນປູກຢາງພາລາ ບໍ່ໄດ້ຄຳນຶງເຖິງການວາງແຜນການນຳໃຊ້ທີ່ທີ່ດິນໄວ້ລ່ວງໜ້າ.

ຂໍ້ສະເໜີແນະນຳ:

- ເພື່ອຫຼຸດຜ່ອນຂໍ້ຂັດແຍ່ງທີ່ອາດຈະເກີດຂຶ້ນ ຈາກການນຳໃຊ້ທີ່ດິນ, ກ່ອນອື່ນໝົດ ຄວນຈະໃຫ້ຄວາມສຳຄັນແກ່ການກຳນົດໝາຍເຂດແດນບ້ານ ແລະ ຮັບປະກັນສິດທິການນຳໃຊ້ທີ່ດິນ ໃຫ້ແກ່ຄອບຄົວປະຊາຊົນ. ຫຼັງຈາກນັ້ນ, ຄວນກວດກາ ແລະ ດັດແກ້ແຜນການນຳໃຊ້ທີ່ດິນຄືນ ຕາມສະພາບເງື່ອນໄຂ ແລະ ຕາມຄວາມຕ້ອງການທີ່ດິນກະສິກຳ ແລະ ຊັບພະຍາກອນທຳມະຊາດຕົວຈິງຂອງບ້ານ. ນອກຈາກນັ້ນ, ຄວນພະຍາຍາມເຮັດໃຫ້ມີການກຳນົດການຖືຄອງທີ່ດິນໃຫ້ເປັນທາງການ ເພື່ອຮັບປະກັນສິດທິການຖືຄອງທີ່ດິນຂອງຄອບຄົວປະຊາຊົນ ແລະ ເຮັດໃຫ້ການກຳນົດໝາຍເນື້ອດິນ ສຳລັບຈຸດປະສົງການອະນຸລັກ ໃຫ້ມີຄວາມຈະແຈ້ງ.
- ຄວນສືບຕໍ່ນຳໃຊ້ວິທີການກຳນົດໝາຍເຂດດິນ ສຳລັບການປູກຢາງພາລາ ທີ່ໄດ້ທົດສອບການນຳໃຊ້ ໃນປີ 2005 ເພື່ອກຳນົດເນື້ອທີ່ ທີ່ບໍ່ເໝາະສົມສຳລັບການປູກຢາງພາລາ. ວຽກນີ້ ຕ້ອງເຮັດຮ່ວມກັນກັບພະນັກ

ງານເມືອງ ແລະ ການນຳຂອງກຸ່ມບ້ານພັດທະນາ ເພື່ອໃຫ້ເຂົາເຈົ້າສາມາດຮຽນຮູ້ ວິທີການກຳນົດ ແບ່ງ ເຂດດິນສຳລັບການປູກຢາງພາລາໄດ້.

- ຄວນສ້າງລະບົບເກັບກຳ ແລະ ຄຸ້ມຄອງຂໍ້ມູນ ກ່ຽວກັບການປູກຢາງພາລາ ທີ່ອາດຈະລວມເອົາຂໍ້ມູນພື້ນ ຖານກ່ຽວກັບຄອບຄົວປູກຢາງພາລາ ໃນຮູບແບບຕ່າງໆ, ຊະນິດພັນທີ່ນຳໃຊ້ ແລະ ສະຖານທີ່ປູກ. ຂໍ້ມູນ ດັ່ງກ່າວ ຈະເປັນພື້ນຖານອັນດີ ສຳລັບການຄົ້ນຄວ້າ ເພື່ອປັບປຸງການປູກ ແລະ ການຄຸ້ມຄອງຢາງພາລາ. ນອກນັ້ນ, ຄວນມີລະບົບການລາຍງານແບບງ່າຍດາຍ ເພື່ອໃຫ້ຫົວໜ້າກຸ່ມບ້ານພັດທະນາ ສາມາດລາຍ ງານໃຫ້ພະນັກງານເມືອງຊາບ 1 ຄັ້ງຕໍ່ປີ.

ການສຶກສາ**ຄົ້ນຄວ້າ**ທີ່ອາດ**ຕ້ອງ**ເຮັດ**ໃນ**ອະນາຄົດ:**

ການສຶກສາກ່ຽວກັບສະຖານທີ່ປູກຢາງພາລາ ແລະ ຜົນກະທົບຂອງມັນ ຕໍ່ຊັບພະຍາກອນປ່າໄມ້ ສະ ເໜີໃຫ້ສືບຕໍ່ເຮັດການສຶກສາເບິ່ງວ່າ ມີການປູກຢາງພາລາຢູ່ໃສແດ່ ແລະ ມັນມີຜົນກະທົບຕໍ່ເນື້ອທີ່ການປົກຄຸມ ຂອງປ່າໄມ້, ຊີວະນາໆພັນ ແລະ ການທຳໜ້າທີ່ຂອງແຫຼ່ງນ້ຳ ຄືແນວໃດ.
ການສຶກສາກ່ຽວກັບການນຳໃຊ້ທີ່ດິນ: ຄວນສຶກສາເບິ່ງວ່າ ຜູ້ໃດສາມາດນຳໃຊ້ທີ່ດິນສຳລັບການປູກຢາງ ແລະ ຜົນກະທົບຂອງມັນ ທາງດ້ານຄວາມສະເໝີພາບໃນສັງຄົມ ເປັນແນວໃດ.

5.2 ບັນຫາດ້ານເທັກນິກ:

ບັນຫາທີ່ມີຄວາມເປັນຫ່ວງທີ່ສຸດ ແມ່ນການຂາດການຄວບຄຸມຄຸນນະພາບຂອງແນວພັນປະສົມ ທີ່ນຳເຂົ້າ ມາປູກ. ບັນຫາຫຼັກຂອງຊາວກະສິກອນ ທີ່ໄດ້ສຳພາດໃນການສຶກສາຄັ້ງນີ້ ແມ່ນອັດຕາການລອດຕາຍຂອງເບ້ຍຢາງ ມີຕ່ຳ ຊຶ່ງອາດຈະມີສາເຫດມາຈາກຄຸນນະພາບຂອງເບ້ຍຢາງທີ່ນຳເຂົ້າ ມີຄຸນນະພາບຕ່ຳ ຫຼື ຊະນິດພັນທີ່ນຳເຂົ້າ ບໍ່ ເໝາະສົມຕໍ່ສະພາບພື້ນທີ່. ບັນດາຂໍ້ມູນກ່ຽວກັບຄຸນລັກສະນະຂອງຢາງພາລາແຕ່ລະຊະນິດ ທີ່ເປັນພາສາລາວ ສຳ ລັບຊາວກະສິກອນ ແລະ ພະນັກງານສົ່ງເສີມກະສິກຳເມືອງ ເກືອບຈະບໍ່ມີຢູ່ໃນຫ້ອງການຂອງເມືອງ. ສ່ວນຂໍ້ມູນ ກ່ຽວກັບວິທີການຄຸ້ມຄອງສວນຢາງພາລາ ແລະ ວິທີການແກ້ບັນຫາກ່ຽວກັບການເສຍຫາຍຂອງຕົ້ນຢາງ ທີ່ເກີດຈາກ ອາກາດໜາວ ແລະ ພະຍາດບົ້ງແມງ ກໍ່ມີຢູ່ຢ່າງຈຳກັດ.

ບັນຫາອີກຢ່າງນຶ່ງທີ່ໜ້າເປັນຫ່ວງ ແມ່ນການປູກພືດຢ່າງອື່ນປະສົມປະສານ. ເຖິງວ່າ ຊາວກະສິກອນ ຈະ ປູກພືດລົ້ມລຸກ (ເຊັ່ນ: ເຂົ້າ, ສາລີ, ໝາກເດືອຍ) ສະຫຼັບກັບຢາງພາລາແລ້ວກໍ່ຕາມ, ແຕ່ວ່າ ຍັງບໍ່ທັນໄດ້ຄຳນຶງເຖິງ ຮູບແບບການປູກທີ່ເປັນທາງເລືອກ ເພື່ອສ້າງລາຍຮັບໃນໄລຍະຍາວໃຫ້ແກ່ຄອບຄົວ ໃນຫຼາຍຮູບຫຼາຍແບບ. ດັ່ງນັ້ນ, ຄວນແປຂໍ້ມູນເຫຼົ່ານີ້ ເປັນພາສາລາວໃຫ້ຫຼາຍ ແລະ ນຳເອົາໄປແຈກຢາຍໃຫ້ແກ່ຊາວກະສິກອນ ເພື່ອໃຫ້ເຂົາເຈົ້າ ສາ ມາດເລືອກນຳໃຊ້ວິທີທາງ ແລະ ຮູບແບບທີ່ດີທີ່ສຸດໄດ້. ໃນຂະນະດຽວກັນນັ້ນ, ສະຖາບັນ ຄົ້ນຄວ້າ ເຊັ່ນ: ສຄກປ ຄວນຈະພິຈາລະນາຄວາມເປັນໄປໄດ້ ທາງດ້ານເສດຖະກິດ ຂອງແຕ່ລະຊະນິດພືດຕ່າງໆ ທີ່ເປັນທາງເລືອກ ແລະ ຊຸກຍູ້ໃຫ້ຊາວກະສິກອນ ໃນເຂດພູດອຍ ຫັນມານຳໃຊ້ລະບົບການຜະລິດກະສິກຳ ແບບປະສົມປະສານ ໃຫ້ຫຼາຍຂຶ້ນ.

ຂໍ້ສະເໜີແນະນຳ:

ປັບປຸງການຄວບຄຸມຄຸນນະພາບຂອງສອນກ້າ ແລະ ປັບປຸງຄວາມຮູ້ກ່ຽວກັບຊະນິດພັນທີ່ເປັນລູກປະສົມ:

- ທຳການສຳຫຼວດສວນກ້າເບ້ຍຢາງພາລາ ທີ່ມີຢູ່ໃນເມືອງຄືນທັງໝົດ ເພື່ອເກັບກຳຂໍ້ມູນກ່ຽວກັບສະຖານທີ່ຕັ້ງ, ຊະນິດພັນທີ່ນຳມາຜະລິດຂາຍ ແລະ ຜູ້ຊື້ເບ້ຍຢາງພາລາ.
- ສ້າງລະບົບກວດກາຄຸນນະພາບ, ກວດກາຊະນິດພັນ ແລະ ອອກໃບຢັ້ງຢືນ ໃຫ້ແກ່ສວນກ້າເບ້ຍຢາງ ທີ່ຜະລິດເບ້ຍຢາງມີຄຸນນະພາບດີ. ເນື່ອງຈາກວ່າ ປະສົບການກ່ຽວກັບການກວດກາດັ່ງກ່າວ ມີຢູ່ຢ່າງຈຳກັດ ສຳລັບຄົນລາວ, ດັ່ງນັ້ນ ຄວນເຮັດຮ່ວມກັນກັບຜູ້ຊ່ຽວຊານ ຈາກ ສປ ຈີນ ຫຼື ປະເທດໄທ.
- ສ້າງປຶ້ມຂໍ້ມູນເປັນຊຸດ ໃຫ້ແກ່ຊາວກະສິກອນ ແລະ ພະນັກງານສົ່ງເສີມເມືອງ ໂດຍນຳໃຊ້ປຶ້ມຂໍ້ມູນທີ່ໄດ້ມາຈາກສະຖາບັນຄົ້ນຄວ້າ ຢາງພາລາ ຈາກປະເທດໄທ ແລະ ສະຖາບັນຄົ້ນຄວ້າ ພືດເຂດຮ້ອນ ໃນແຂວງ ສິບສອງປັນນາ, ສປ ຈີນ ຊຶ່ງອາດຈະມີການປະສົມປະສານກັບທີມງານສະເພາະກິດ ກ່ຽວກັບການຄຸ້ມຄອງຂໍ້ມູນຂ່າວສານ ຂອງ ສຄກປ ແລະ ກສກປ ໂດຍອາດຈະລວມເອົາບັນດາຫົວເລື້ອງ ດັ່ງນີ້:
  - ຜົນກະທົບຈາກອາກາດໜາວ, ການຄວບຄຸມພະຍາດ ແລະ ບົ້ງແມງ, ວິທີການຄຸ້ມຄອງສວນແນວພັນ ເພື່ອເອົາຕາ ແລະ ວິທີການຕິດຕາ, ຄວາມອາດສາມາດ ແລະ ຂໍ້ຈຳກັດຂອງແນວພັນລູກປະສົມ ແລະ ຂໍ້ແນະນຳແບບງ່າຍດາຍ ກ່ຽວກັບສະຖານທີ່ປູກ (ເຊັ່ນ: ຄວາມຄ້ອຍຊັນ, ດິນ, ລະດັບຄວາມສູງ, ພື້ນທີ່ໃນພາກພື້ນ ແລະ ອື່ນໆ).
  - ລະບົບ ແລະ ທາງເລືອກຕ່າງໆ ໃນການຜະລິດກະສິກຳ ນອກຈາກການປູກຢາງພາລາ (ພືດເສດຖະກິດ, ເຄື່ອງປ່າຂອງດົງ, ການລ້ຽງສັດ).
  - ລາຄາຢາງຕາມທ້ອງຕະຫຼາດໃນປະຈຸບັນ, ສາເຫດທີ່ເຮັດໃຫ້ລາຄາຂຶ້ນໆລົງໆ, ທາງເລືອກໃນການປຸງແຕ່ງ ແລະ ບົ່ວລະບັດຮັກສາຢາງ, ຄວາມຮູ້ກ່ຽວກັບຜົນປະໂຫຍດທີ່ຈະໄດ້ຈາກການຜະລິດເປັນກຸ່ມ.
  - ບັນຊີລາຍການຂອງເງື່ອນໄຂສັນຍາ, ສິດ ແລະ ໜ້າທີ່ຂອງຊາວກະສິກອນ, ຂໍ້ແນະນຳກ່ຽວກັບສະຖານທີ່ໄກ່ເກ່ຍບັນຫາ ແລະ ຂໍ້ຂັດແຍ່ງດ້ານການນຳໃຊ້ທີ່ດິນ ແລະ ອື່ນໆ.

ການສຶກສາຄົ້ນຄ້ວາທີ່ອາດຕ້ອງເຮັດໃນອະນາຄົດ:

- ທຳການສຶກສາ ຫາຄວາມຮູ້ດ້ານເຕັກນິກ ກ່ຽວກັບການຜະລິດເບ້ຍຢາງ ແລະ ຄວາມຮູ້ກ່ຽວກັບບັນດາຊະນິດພັນຢາງພາລາ ທີ່ຊາວກະສິກອນນຳມາຜະລິດ ໃນສວນກ້າຂອງຕົນ: ຄວນດຳເນີນການສຶກສາເຫຼົ່ານີ້ ປະສານກັບການແນະນຳເຈົ້າຂອງສວນກ້າເບ້ຍ ກ່ຽວກັບເທັກໂນໂລຊີການຕິດຕາ, ຕໍ່ກິ່ງ ແລະ ອື່ນໆ. ການສຶກສານີ້ ຄວນຍົກໃຫ້ຮູ້ເຖິງບັນດາຂໍ້ຈຳກັດຕ່າງໆ ທີ່ທາງພະນັກງານສົ່ງເສີມກະສິກຳ ແລະ ຊາວບ້ານ ຜູ້ອື່ນໆເຄີຍປະເຊີນມາ.
- ການສຶກສາ ເພື່ອສົມທຽບກ່ຽວກັບລະບົບການຜະລິດກະສິກຳ ແບບປະສົມປະສານ: ການສຶກສານີ້ ຄວນສົມທຽບ ລະຫວ່າງ ຜົນໄດ້ຜົນ ແລະ ຜົນເສຍຂອງການປູກຢາງພາລາແບບລ້ອນ ແລະ ລະບົບການປູກແບບປະສົມປະສານ.

5.3 ບັນຫາດ້ານເສດຖະກິດ ແລະ ສັງຄົມ:

ໃນສະພາບທີ່ຊາວກະສິກອນ ມີຄວາມສົນໃຈສູງ ໃນການປູກຢາງພາລາ ເປັນເຊັ່ນນີ້, ພະນັກງານ ກະສິກຳ-ປ່າ-ໄມ້ເມືອງ ມີຄວາມຈຳເປັນຕ້ອງມີຄວາມຮູ້ ແລະ ຄວາມສາມາດໃນການອະທິບາຍ ໃຫ້ຊາວກະສິກອນເຫັນພາບທາງດ້ານດີ ແລະ ດ້ານເສຍ ຂອງການປູກຢາງໃຫ້ຈະແຈ້ງ. ປະຈຸບັນນີ້, ຫ້ອງການສົ່ງເສີມ ກະສິກຳ ແລະ ປ່າໄມ້ເມືອງ ຍັງບໍ່ທັນມີຄວາມສາມາດ ໃນການປະເມີນຜົນຂອງການປູກຢາງພາລາ ແລະ ບໍ່ມີຄວາມສາມາດສະໜອງຂໍ້ມູນຂ່າວສານ ໃຫ້ແກ່ຊາວກະສິກອນ ແບບທັນການໄດ້ເທື່ອ.

ຈາກຜົນການສຶກສາໃນຄັ້ງນີ້ ເຫັນໄດ້ຢ່າງຈະແຈ້ງວ່າ ຄອບຄົວຜູ້ປູກຢາງພາລາລາຍຍ່ອຍ ມີຄວາມຮູ້ແບບຈຳກັດ ກ່ຽວກັບການຕະຫຼາດຢາງພາລາ. ພວກເຂົາເຈົ້າຍັງບໍ່ທັນຮູ້ວ່າ ຈະຂາຍຢາງໃຫ້ໃຜ (ຍົກເວັ້ນຜູ້ເຮັດແບບສັນຍາຜູກພັນກັບບໍລິສັດ) ແລະ ບໍ່ຮູ້ວ່າ ລາຄາຕະຫຼາດເປັນແນວໃດ. ນອກຈາກນີ້ ພວກເຂົາເຈົ້າ ກໍ່ຍັງບໍ່ຮູ້ເຖິງ ສະພາບການຕະຫຼາດຢູ່ໃນພາກພື້ນ, ບໍ່ຮູ້ວ່າ ສປ ຈີນ ເກັບພາສີນຳເຂົ້າແນວໃດ. ສິ່ງເຫຼົ່ານີ້ ພາໃຫ້ມີຄວາມເປັນຫ່ວງວ່າ ຄວາມຮູ້ກ່ຽວກັບການຕະຫຼາດ ທີ່ມີຢູ່ຢ່າງຈຳກັດເຊັ່ນນີ້ ຈະເຮັດໃຫ້ຊາວກະສິກອນ ຕົກຢູ່ໃນຖານະອ່ອນແອໃນການຕໍ່ລອງລາຄາ. ຍິ່ງໄປກວ່ານັ້ນ, ກໍ່ຍັງບໍ່ທັນໄດ້ມີການປຶກສາຫາລືຢ່າງແຜ່ຫຼາຍ ກ່ຽວກັບທາງເລືອກຕ່າງໆ ນອກຈາກຢາງພາລາ ພ້ອມທັງວິທີການຕ່າງໆ ເພື່ອເພີ້ມທາງເລືອກໃນການດຳລົງຊີວິດ ສຳລັບຊາວກະສິກອນ ໃນເຂດດູດອຍ.

ຂໍ້ສະເໜີແນະນຳ:

- ຂໍ້ມູນຂ່າວສານ ກ່ຽວກັບລາຄາຢາງຕາມທ້ອງຕະຫຼາດ ແລະ ຄວາມຮຽກຮ້ອງຕ້ອງການຢາງ ເປັນສິ່ງສຳຄັນ ສຳລັບຊາວກະສິກອນ ຜູ້ປູກຢາງລາຍຍ່ອຍ, ດັ່ງນັ້ນ ຄວນສ້າງລະບົບການກະຈາຍຂໍ້ມູນຂ່າວສານ ໃຫ້ແກ່ຊາວກະສິກອນລາຍຍ່ອຍ ແບບເປັນລະບົບ.
- ຫ້ອງການສົ່ງເສີມກະສິກຳ ແລະ ປ່າໄມ້ເມືອງ ຄວນຊຸກຍູ້ສົ່ງເສີມການສ້າງຕັ້ງກຸ່ມຊາວກະສິກອນ ຢູ່ໃນລະດັບກຸ່ມບ້ານ. ກຸ່ມແບບນີ້ ສາມາດທຳໜ້າທີ່ເປັນບ່ອນແລກປ່ຽນປະສົບການດ້ານເຕັກນິກ, ປັບປຸງລະບົບສິນເຊື່ອ, ປັບປຸງການປຸງແຕ່ງ ແລະ ຕໍ່ລອງລາຄາໄດ້. ຊາວກະສິກອນ ທີ່ເມືອງນາໜ້ ແລະ ເມືອງໂພນໄຊ ສາມາດທີ່ຈະຮຽນຮູ້ ຈາກປະສົບການຂອງບ້ານຫາດຍາວ ໃນການຈັດຕັ້ງກຸ່ມ ທີ່ສາມາດເຈລະຈາກັບພໍ່ຄ້າ ຈາກພາຍນອກ ແບບເປັນກຸ່ມໄດ້.
- ນອກຈາກນັ້ນ, ຄວນຈະມີການສຶກສາ ລົງເລິກທາງດ້ານເສດຖະກິດ ຂອງຢາງພາລາສຳລັບຊາວກະສິກອນລາຍຍ່ອຍ. ການສຶກສານີ້ ບໍ່ຄວນສຸມໃສ່ແຕ່ດ້ານຜົນຜະລິດ ແລະ ລາຍຮັບແຕ່ຢ່າງດຽວ, ແຕ່ຄວນເບິ່ງດ້ານແນວຄວາມຄິດ ກ່ຽວກັບການຜະລິດກະສິກຳ ທີ່ເປັນທາງເລືອກອື່ນ ໄປພ້ອມໆກັນ (ເຊັ່ນ: ການລ້ຽງສັດ, ເຄື່ອງປ່າຂອງດົງ, ລະບົບກະສິກຳ-ປ່າໄມ້ ແບບປະສົມປະສານ ແລະ ອື່ນໆ).

ການສຶກສາຄົ້ນຄ້ວາທີ່ອາດຕ້ອງເຮັດໃນອະນາຄົດ:

ການສຶກສາ ເພື່ອສົມທຽບຜົນຮັບທາງດ້ານການເງິນ ຂອງພືດເສດຖະກາດຕ່າງໆ: ໃນສະພາບທີ່ຄົນສ່ວນຫຼາຍ ມີແນວໂນ້ມຈະສຸມໃສ່ການປູກຢາງພາລາແບບລ້ວນ, ມັນຄວນຈະມີທາງເລືອກອື່ນ ສຳລັບຊາວກະສິກອນລາຍຍ່ອຍ ເພື່ອສ້າງເສດຖະກິດຄອບຄົບແບບຫຼາກຫຼາຍ. ດັ່ງນັ້ນ, ການຄົ້ນຄວ້າ ຄວນສຸມໃສ່ການສົມທຽບບັນດາ

ທາງເລືອກຕ່າງໆ ທີ່ຊາວກະສິກອນໃນເຂດພາກເໜືອນຳໃຊ້ໄດ້ ເຊັ່ນ: ການປູກພືດເສດຖະກິດ, ການຜະລິດເຄື່ອງປ່າຂອງດົງ, ການລ້ຽງສັດ ແລະ ການທ່ອງທ່ຽວທຳມະຊາດ ເປັນຕົ້ນ.

ຜົນກະທົບຂອງຢາງພາລາ ຕໍ່ເຄື່ອງປ່າຂອງດົງ ແລະ ການຄຸ້ມຄອງຊັບພະຍາກອນສ່ວນລວມ: ສິ່ງສຳຄັນ ຄວນຈະທຳການສຶກສາ ກ່ຽວກັບການປ່ຽນແປງທີ່ເກີດຂຶ້ນກັບເຄື່ອງປ່າຂອງດົງ ແລະ ການນຳໃຊ້ຂອງມັນ ຢູ່ໃນເຂດທີ່ປູກຢາງພາລາ ແລະ ໃຫ້ຮູ້ວ່າ ການປ່ຽນແປງດັ່ງກ່າວ ມີຜົນກະທົບຕໍ່ເສດຖະກິດຄອບຄົວ ແລະ ສະພາບຊີວິດການເປັນຢູ່ ຄືແນວໃດ.

ສຶກສາເບິ່ງວ່າ ຊາວກະສິກອນຜູ້ປູກຢາງລາຍຍ່ອຍ ສາມາດເພີ້ມປະສິດທິພາບການຜະລິດ ດ້ວຍການສ້າງຕັ້ງກຸ່ມ ໄດ້ຄືແນວໃດ: ທາງທີ່ດີທີ່ສຸດ ຄື ຄວນຈະສຶກສາເບິ່ງວ່າ ມາເຖິງປະຈຸບັນ ມີການຈັດການກ່ຽວກັບການປູກຢາງພາລາ ແບບທີ່ເປັນທາງການ ແລະ ບໍ່ເປັນທາງການ ແນວໃດແດ່ ແລະ ແຕ່ລະຮູບແບບ ປະສົບຜົນສຳເລັດແນວໃດ ແລະ ສຶກສາຕື່ມວ່າ ຈະສາມາດສ້າງຕັ້ງກຸ່ມຜະລິດ ປະເພດໃດໄດ້.

5.4 ການເຮັດ**ສັນຍາ**ຜູກພັນການ**ຜະລິດ**:

ດັ່ງທີ່ໄດ້ກ່າວໄວ້ ກ່ອນໜ້ານີ້ແລ້ວວ່າ ກ່ອນການເຊັນສັນຍາ ບໍ່ໄດ້ມີການສຶກສາຢ່າງໃດເລີຍ ທີ່ຈະສາມາດປະເມີນໄດ້ວ່າ ເນື້ອທີ່ປະເພດໃດ ເໝາະສົມໃນການປູກຢາງພາລາ ຫຼື ບໍ່ໄດ້ສົມທົບປຶກສາຫາລື ກັບຊາວກະສິກອນ ເພື່ອຂໍຄຳເຫັນ ແລະ ຄວາມສົນໃນຂອງເຂົາເຈົ້າ ກ່ຽວກັບການເຊັນສັນຍາແຕ່ຢ່າງໃດ. ບັນຫາທີ່ເປັນພື້ນຖານອີກຢ່າງນຶ່ງ ແມ່ນອຳນາດການປົກຄອງເມືອງ ມີຄວາມຮູ້ຈຳກັດກ່ຽວກັບການຮ່າງສັນຍາ ກັບນັກລົງທຶນຕ່າງປະເທດ ແລະ ບໍ່ເຄີຍມີບົດຮຽນໃນການອະນຸມັດ ການສັນຍາດ້ວຍຂະບວນການແບບມີສ່ວນຮ່ວມ.

ທາງທິດສະດີ ການເຊັນສັນຍາຜູກພັນການຜະລິດ ເປັນຜົນດີແກ່ຊາວກະສິກອນ (ຫຼື ໃຊ້ສູດການລົງທຶນແບບ “2+3” ທີ່ທາງກະຊວງ ກະສິກຳ ແລະ ປ່າໄມ້ ໃຊ້ລະດົມການລົງທຶນ) ຖ້າວ່າ ນັກລົງທຶນສະໜອງປັດໃຈຂາເຂົ້າໃນການຜະລິດ, ການບໍລິການດ້ານການສົ່ງເສີມ ກໍ່ຄືການບໍລິການດ້ານການຕະຫຼາດໄປພ້ອມກັນ. ໃນເມື່ອຢາງພາລາ ຍັງເປັນພືດຊະນິດໃໝ່ ສຳລັບຊາວກະສິກອນລາວຢູ່ນີ້ ມັນຍັງເປັນການເພີ້ມຄວາມສ່ຽງ ທາງດ້ານການຕະຫຼາດ ກໍ່ຄືຄວາມສ່ຽງທີ່ຈະມີຂໍ້ຜິດພາດທາງດ້ານການຜະລິດ (ອ້າງອີງໃສ່ Eaton and Shepherd, 2001). ຄວາມສ່ຽງນີ້ ຄວນຈະເບິ່ງໃນແງ່ຂອງການລົງທຶນໄລຍະຍາວ ທີ່ເກີດຈາກຢາງພາລາ.

ເພື່ອຢາກເຮັດໃຫ້ໄດ້ຜົນປະໂຫຍດສູງສຸດ ຈາກການເຮັດສັນຍາຜູກພັນການຜະລິດ ຈະຕ້ອງຮັບປະກັນໃຫ້ໄດ້ວ່າ ຜູ້ລົງທຶນຕ້ອງມີຄວາມໝັ້ນຄົງ ແລະ ມີຄວາມສາມາດເຮັດໃຫ້ສັນຍາ ປະກົດຜົນເປັນຈິງ. ນອກນັ້ນ, ຍັງມີຄວາມຈຳເປັນຕ້ອງສ້າງກົນໄກ ເພື່ອບັງຄັບໃຊ້ສັນຍາຕໍ່ທັງສອງຝ່າຍ ຄືຊາວກະສິກອນ ແລະ ບໍລິສັດທີ່ກ່ຽວຂ້ອງ. ສຸດທ້າຍ, ສັນຍາຜູກພັນການຜະລິດ ບໍ່ຄວນຈຳກັດທາງເລືອກຂອງຊາວກະສິກອນ, ແຕ່ຄວນຈະເປັນສິ່ງປັບປຸງທາງເລືອກ ໃນການດຳລົງຊີວິດຂອງຊາວກະສິກອນ, ໂດຍສະເພາະ ຜູ້ທີ່ບໍ່ສາມາດເຂົ້າເຖິງສິນເຊື່ອໄດ້.

ຂໍ້ສະເໜີແນະນຳ:

- ຄວນພ້ອມກັນປະຕິບັດ ລະບຽບຫຼັກການອັນດຽວກັນ ແລະ ບັນດາຜູ້ເຂົ້າຮ່ວມໃນລະດັບແຂວງ ແລະເມືອງ ກໍ່ຕ້ອງເຂົ້າໃຈກ່ຽວກັບລະບຽບຫຼັກການ ດັ່ງກ່າວ. ນອກຈາກນັ້ນ, ອົງການຈັດຕັ້ງທີ່ກ່ຽວຂ້ອງ ໃນລະດັບຊາດ ເຊັ່ນ: ອົງການຄຸ້ມຄອງທີ່ດິນແຫ່ງຊາດ ຄວນປັບປຸງການຈັດຕັ້ງ ປະຕິບັດນະໂນບາຍ ໃນລະດັບ

ທ້ອງຖິ່ນ. ສ່ວນຢູ່ເມືອງນາໜ້ ແລະ ເມືອງໂພນໄຊ ວຽກດັ່ງກ່າວນີ້ ຄວນເປັນໜ້າທີ່ຂອງ ສະຖາບັນ ຄົ້ນຄວ້າ ກະສິກຳ ແລະ ປ່າໄມ້ ພາຍໃຕ້ການຊ່ວຍເຫຼືອ ຈາກອົງການຄຸ້ມຄອງທີ່ດິນແຫ່ງຊາດ.

- ຄວນສ້າງຮ່າງລາຍການຕ່າງໆ ຂອງສັນຍາຜູກພັນການຜະລິດ ທີ່ສອດຄ່ອງກັບລະບຽບການ ທີ່ມີຢູ່ໃນປະຈຸບັນ ແລະ ສະໜອງຂໍ້ແນະນຳແບບງ່າຍດາຍ ໃຫ້ແກ່ຊາວກະສິກອນລາຍຍ່ອຍ ແລະ ພະນັກງານເມືອງ ເພື່ອໃຫ້ເຂົາເຈ້ົາເຂ້ົາໃຈກ່ຽວກັບສັນຍາ. ວຽກນີ້ ສາມາດເຮັດຮ່ວມກັນໄດ້ ກັບອົງການຈັດຕັ້ງທີ່ກ່ຽວຂ້ອງ ອື່ນໆ ເຊັ່ນ: ອົງການ GTZ ທີ່ເມືອງສີງ ແລະ ກອງສົ່ງເສີມ ກະສິກຳ ແລະ ປ່າໄມ້.
- ຄວນຮັບປະກັນໃຫ້ໄດ້ວ່າ ຊາວກະສິກອນ ຜູ້ຜະລິດຢ່ໆລາຍຍ່ອຍ ມີສ່ວນຮ່ວມໃນຂະບວນການ ໃນເວລາ ກຳນົດແບ່ງເຂດດິນ ສຳລັບການສຳປະທານ ຫຼື ເຮັດສັນຍາຜູກພັນການຜະລິດ. ໂຄງການຄົ້ນຄວ້າກະສິກຳ ແລະ ປ່າໄມ້ ເຂດພູດອຍ ຮ່ວມມື ລາວ-ຊູແອດ ຄວນເຮັດສັນຍາກັບບໍລິສັດ ທີ່ກຳລັງດຳເນີນການ ຫຼື ມີ ແຜນການຈະດຳເນີນການໃນເຂດເມືອງ ເພື່ອແລກປ່ຽນຂໍ້ມູນນຳກັນແບບເປັນປະຈຳ ເພື່ອເຮັດໃຫ້ຊາວກະ ສິກອນ ຜູ້ປູກຢ່ໆລາຍຍ່ອຍ ມີສ່ວນຮ່ວມໃນຂະບວນການຕັດສິນໃຈ.

ການສຶກສາຄົ້ນຄ້ວາທີ່ອາດຕ້ອງເຮັດໃນອະນາຄົດ:

ສຶກສາເບິ່ງຮູບແບບຕ່າງໆ ຂອງການເຮັດສັນຍາຜູກພັນການຜະລິດ: ສົມທຽບຈຸດດີ ແລະ ຂໍ້ເສຍ ຂອງຮູບ ແບບຕ່າງໆ ໃນການເຮັດສັນຍາຜູກພັນການຜະລິດ ຢູ່ ສປປ ລາວ ແລະ ທຳຄວາມເຂົ້າໃຈກ່ຽວກັບອົງປະກອບ ພື້ນຖານ ຂອງຜົນສຳເລັດໃນແຕ່ລະຮູບແບບ. ວຽກນີ້ ສາມາດເຮັດຮ່ວມກັນໄດ້ ກັບກອງສົ່ງເສີມ ກະສິກຳ ແລະ ປ່າໄມ້.

Contents

Acknowledgements and Notes

Executive summary

Acronyms

1. Introduction 1

1.1 Objective of the study 2

1.2 Research questions 2

2. Data collection and scope of the study 3

2.1 Data collection 3

2.2 Limitations and scope of study 5

3. Situation of rubber planting in northern Laos 5

3.1 Status of rubber planting in Oudomxay province 7

3.2 Status of rubber planting in Luang Prabang province 8

4. Situation of rubber planting in Phonexay and Namo districts 9

4.1 General situation 9

4.1.1 Namo District 9

4.1.2 Phonexay District 10

4.2 Characteristics of households planting rubber 11

4.3 Land use 14

4.3.1 Land conversion and land-use conflicts 14

4.3.2 Land suitability zoning and site selection 15

4.3.3 Lack of information on rubber planting at district level 15

4.4 Technical issues 16

4.4.1 Extension techniques and access to technical information 16

4.4.2 Clonal varieties and seedling quality 18

4.4.3 Intercropping and agroforestry 20

4.5 Household economy and livelihood 22

4.5.1 Food security 22

4.5.2 Access to credit 22

4.5.3 Market access 23

4.6 Contract farming ***23***

4.6.1 Foreign investment approval process and land management 23

4.6.2 Contract farming and smallholder in Namo district 24

5. Conclusion and recommendations **25**

5.1 Land management ***26***

5.2 Technical issues ***27***

5.3 Socioeconomic and livelihood issues ***28***

5.4 Contract farming ***29***

References **30**

Appendix 1: Contract farming and concession arrangements **34**

Appendix 2: Profiles of farmers planting rubber in two districts **35**

Appendix 3: Intercropping and diversification of rubber plantation **37**

Endnotes **39**

Acronyms

CPMI	Committee for Promotion and Management of Investment
DAFEO	District Agriculture and Forestry Extension Office
DSA	Department of State Assets
GTZ/RMDA	Deutsche Gesellschaft für Technische Zusammenarbeit/Rural Development in Mountainous Areas Programme
IRSG	International Rubber Study Group
LSUAFRP	Lao Swedish Upland Agriculture and Forestry Research Programme
NAFES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NGPES	National Growth and Poverty Eradication Strategy
NLMA	National Land Management Authority
NUoL	National University of Laos
PAFO	Provincial Agriculture and Forestry Office
PDPI	Provincial Department for Planning and Investment
SSLC	Soil Survey and Land Classification Centre/NAFRI

1. Introduction

The global demand for natural and synthetic rubber has increased since the early 1990s, largely driven by the booming economies in Asia. While the total consumption for both natural and synthetic rubber in Northern America and Europe accounted more than 60 percent of the global consumption in 1965, the share declined down to approximately 30 percent in 2005 (See Smit and Burger 1992). According to the International Rubber Study Group (IRSG), Asia's consumption is now more than 50 percent[1].

This change is primarily due to the rapid industrial development and economic growth of China and India[2]. It is expected that China will consume 30 percent of global rubber production (both natural and synthetic rubber) by 2020 (Anon 2006). Almost all natural rubber imported by China originates from Southeast Asia, with Thailand accounting for approximately 70 % of total imports. China's other main sources of rubber are Vietnam, Malaysia and Indonesia (IRSG et al nd).

Although there is a steady demand for rubber, this does not necessarily mean that prices will continue to rise. Figure 1 indicates the volatile nature of world market price for natural rubber despite efforts to regulate the market price of rubber by organizations such as the International Natural Rubber Organization (Burger and Smit 1992)[3]. Since the 1960s, the price of rubber has actually declined in real terms from over 2,500 US$/tonne in 1960 to just over 600 US$/tonne, in 1990 values (FAO 2003). More recently, rubber prices in Thailand fell more than 60% in a matter of months during 2006 prompting protests from rubber farmers that sought government support in securing minimum price and protecting producer's profits (Boonchotee 2006).

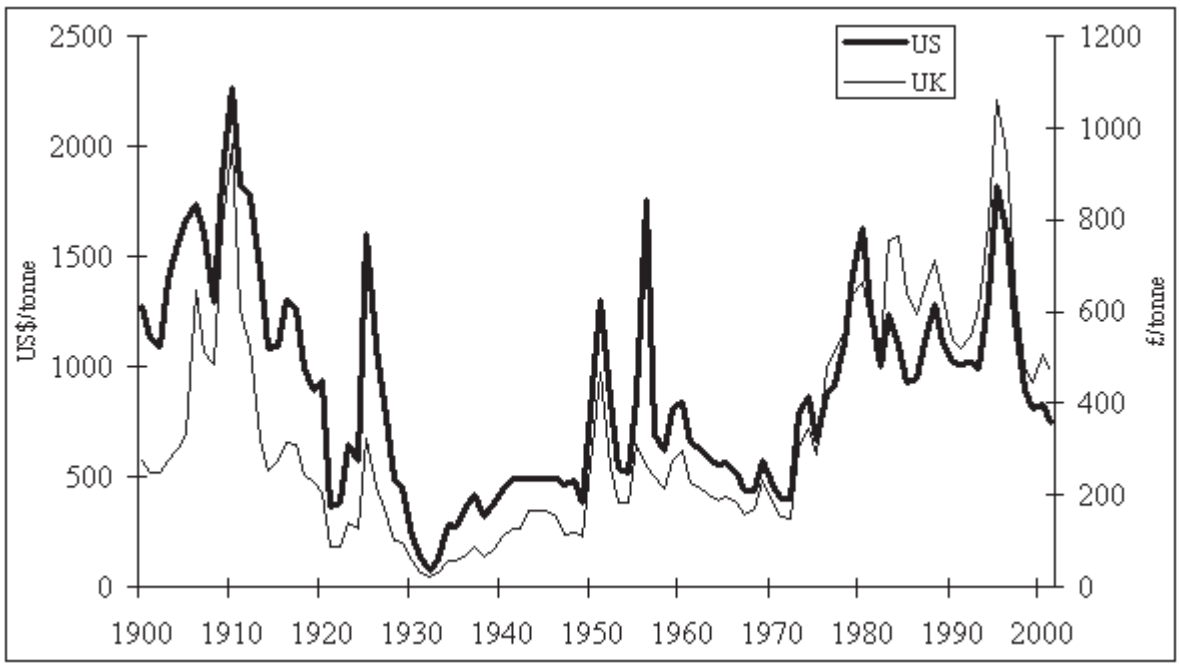

Figure 1: Rubber prices in New York and London: 1900-2000

Source: http://www.fao.org/DOCREP/006/Y4344E/y4344e0d.htm

The surging demand for natural rubber in China obviously presents opportunities for a country like Laos. Laos has a low population density, seemingly large areas of unused land and potential capacity to absorb foreign investment. On the other hand, Laos is not in the optimal range for planting rubber with marginal annual rainfall below 1,500mm and up to seven dry months (Watson 1989). Minimum temperature in upland areas of northern Laos range between three to nine degrees Celsius (Hanson and Sodarak 1996). Chapman (1991) notes that rubber plantation in Xishuangbanna prefecture, which is located in the south-western part of Yunnan Province of China bordering Burma, Laos, and Vietnam, was nearly wiped out in 1973 and 1974 due to severe frost (p39). Similarly, a cold spell in 1999/2000 wiped out large tracts of rubber in southern Xishuangbanna and northern Laos.[4]

Despite this, rubber is gaining widespread popularity among rural farmers in Laos. Rubber offers annual income from the sales of latex after a period of seven years up to more than 30 years if properly maintained. The timber can also be sold when latex is no longer tapped. The leader of Had Nyao Village claimed that farmers can earn more than a million kip per month (97 USD, 1 USD=9,700 kip) and up to 15 million kip (1,546 USD) per year (Vongsay 2004). Rubber is also seen by many government officials as one option to lift rural farmers out of poverty and stabilize shifting cultivation as it is planted on swidden and fallow land.

Since the interest in rubber is quite recent, few studies have been carried out to assess and analyse the impacts of rubber planting. In addition, the situation has quickly evolved since the first comprehensive study on rubber was conducted by Alton et al. in 2005. Our current study builds upon the work of Alton et al. (2005) and the outcomes from the Regional Workshop on Smallholder Rubber (May 2006). However, the study is meant to be a "snap-shot" of the current status and issues arising in smallholder rubber planting in two districts in northern Laos. It also investigates how foreign investors are introducing contract farming to local farmers, and the roles of different stakeholders in the decision-making process.

1.1 Objective of the study

The main objective of the study is to better understand how rubber is being planted in Phonexay and Namo districts (see Figure 2) and the emerging challenges and opportunities for smallholder rubber development. The study explores four interlinked factors: land management, technical issues, livelihood issues and contract farming. Based on the preliminary analysis, recommendations are given to local decision-makers for how to improve rubber planting activities with due consideration to minimizing impacts on local livelihoods and the environment. In addition, the study identifies areas of future research for NAFRI and other research organizations.

1.2 Research questions

The main research question is "how is rubber currently being planted and what are the emerging impacts on local livelihoods and the environment?" As mentioned above, the study focuses on four broad areas. Within each of theses areas, more specific research questions were defined as follows:

Land issues

- ✔ What smallholders are planting and how is land for rubber planting selected?
- ✔ What is the impact of rubber on land use change and fragmentation of land?

Technical issues

- ✔ What technical expertise do farmers possess and how do they obtain it?
- ✔ How are intercropping and agroforestry being applied and what are the different types of crops that can be planted on smallholder rubber field?
- ✔ What kind of planting material is accessible and affordable to smallholders? How are they obtained?

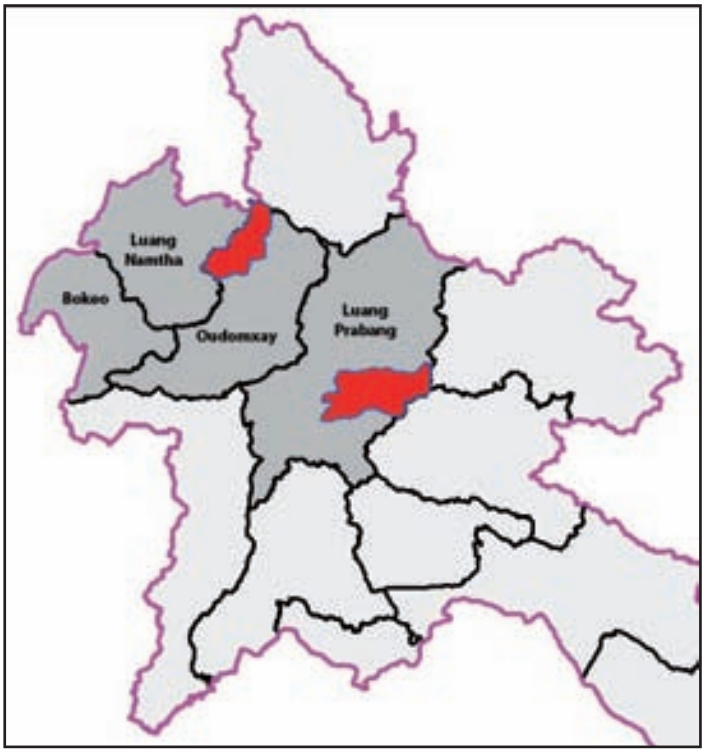

Figure 1: Map of northern Laos

Socioeconomic and livelihood issues

- ✔ How do smallholders planting rubber meet their food and income needs during the non-productive period of rubber planting?
- ✔ What knowledge do smallholders possess of the market concerning potential buyers and price?
- ✔ What supports are available for smallholders from provincial offices, district offices and traders when deciding to plant rubber?

Contract farming

- ✔ How does the decision making process work when contract farming is established?
- ✔ What are the kind of services and support that smallholders receive for contract farming?

2. Data collection and scope of the study

2.1 Data collection

Both secondary and primary data were collected for the study. Primary data collection was carried out through interviews with stakeholders at different levels. These included farmers, PAFO and DAFEO officials, as well as officials from the Provincial and District Planning Offices in Namo and Phonexay District.

The research team consisted of junior researchers from three research components of LSUAFRP including the Socio-Economic Research Component, Farming System Research Component and Forestry Research

Component, as well as advisors from the Socio-economic Research Component. The team conducted semi-structured interviews with representatives from provincial and district agriculture and forestry offices, and with planning and investment office in two districts. At the village level, the research team conducted a brief key informant interview at the beginning to understand the general background of rubber planting in the village, and then conducted a semi-structured interview with households that were planting rubber, as well as households that are not planting rubber. Altogether 39 farmers were interviewed (17 in Phonexay and 22 in Namo). Household interviews were conducted by one or two persons from the team, while officials from district and provincial offices were interviewed by the research team as a whole.

In order to understand the general characteristics of the farmers that are planting rubber (or not planting), a selected sampling was used whereby village leaders identified households from four different groups. These include:

1. **Farmers who plant rubber using their own capital.** Majority of these farmers have temporary use rights to the land where they are planting and have ownership over the trees planted.[5]
2. **Farmers who have entered into an agreement with a company**[6]. Farmers provide inputs including land and labour, while the company provides remaining inputs (i.e. materials and seedlings, technical expertise and market access).
3. **Farmers who are supported by a project or external agency.** In the case of Namo and Phonexay districts, this specifically means households working with LSUAFRP on-farm trials. The aim of the trial is to test different types of rubber based agro-forestry systems. Farmers planting rubber with LSUAFRP have a similar arrangement to contract farming, where they provide land and labour while the project provides technical inputs and seedlings. Farmers are free to sell their rubber latex on their own. However, farmers are obliged to repay 80% of the cost of initial inputs to the DAFEO once they start to tap latex without interest payment.[7] This is then pooled as a collective fund to provide credits for other farmers in the village interested in planting rubber.
4. **Farmers who do not plant rubber at all.** These farmers were also interviewed in our study to understand the reasons why they are not planting as well as to compare their characteristics with farmers that are planting rubber.

In addition to the two districts, the team also visited Sing District (Luang Namtha Province), where rubber has been planted by villagers since the early 1990s, to interview DAFEO staff and villagers. Through key informant interview, we learnt about the history of rubber development in the district and the way farmers managed smallholder rubber plantations. In addition, the research team visited Nambak District (Luang Prabang Province) to interview DAFEO staff and the Sino-Lao Rubber Company. These visits were made to compare the development of rubber in other districts to the study districts.

2.2 Limitations and scope of study

This study is a preliminary assessment of the rubber planting situation in Phonexay and Namo Districts. It was also conducted by a team of junior researchers at NAFRI guided by LSUAFRP advisors. As such it provides a "snap-shot" of the current status of rubber planting in the two districts and is not meant to be representative of rubber planting in the country as a whole. The study is meant to be used as a point of discussion to develop further research and development interventions in these two districts.

Another limitation of this study concerns the contradictory data that was provided by different agencies during the study. While obtaining data in the field, it was clear that district and even project staff did not have reliable data on rubber planting in the two districts. This is understandable given the rapidly changing environment and lack of systematic data management systems within the districts. Thus, figures presented in this report, should be seen as an estimation of what is actually being planted.

Although some of the challenges met by stakeholders involved in rubber production in Namo and Phonexay might be similar with cases reported in other parts of Laos, it should be noted that investment arrangements that are described in the current report are not representative. In Namo and Phonexay, concession rights have not been granted to companies to plant rubber for latex extraction or hiring local labour as had been the case in Nambak district in Luang Prabang, or Bachieng District in Champassak and Lao Ngam District in Saravane where land disputes arose between the local farmers and foreign investors (Vientiane Times 2007b). While the issue of land concession for agricultural development is a critical issue (see also Vientiane Times 2007 a,b), this study focuses more on emerging problems on investment approval and land use planning processes.

3. Situation of rubber planting in northern Laos

Rubber planting has experienced a significant boom during the last decade in northern Laos as Chinese demand for natural rubber has increased, coupled with rising world price of natural rubber. Local authorities in northern Laos are frequently approached by Chinese investors with investment plans for rubber planting. In the meantime, rural farmers are also showing interest to plant rubber with the hope of securing a source of long-term income for their family. Unlike other boom crops (i.e. Job's tear, maize), there are yet no signs that the surging interest in rubber is about to diminish (Ketphanh et al. n.d.).

According to Table 1, northern Laos accounts for 58 percent of total rubber planted in Laos today. The plan of the Ministry of Agriculture and Forestry is to expand this by more than seven times up to 121,000 ha by 2010.

Table 1 Target and potential for planting rubber (Unit: ha)

Regions	2007	2010 (plan)
Northern	16,547	121,000
Central	2,946	10,000
Southern	8,738	52,840
Total area of rubber	28,231	183,840
Share of total land	0.12%	0.78%

Source: based on Forestry Research Centre (2007)

While rubber planting in Laos began during the 20th century with the introduction by the French in southern Laos, it never achieved a great success. Farmers living on the Chinese border in Luang Namtha province began to take interest in rubber in the early 1990s. The success of smallholder rubber production in China, and the series of economic reform that dismantled the State Farm System in Xishuangbanna coupled with the opening of the regional border between China and Laos in 1992 had triggered increased interest of farmers in Laos to plant rubber. As accounted by Alton et al. (2005), Had Nyao village was among the first groups of villages that began to plant rubber in Luang Namtha province in the early 1990s.

The case of Had Nyao smallholder rubber production has been well studied (Phouyyavong et al. 2004, Alton et al. 2005, Manivong and Cramb 2006). In the first year of tapping, households in Had Nyao village made approximately 4 million kip on average as net household revenue. The net revenue increased in the second year to around 4.8 million kip. In the third year, it was more than 8 million kip due to increased production and surging latex prices. The success of Had Nyao village spread quickly. As the price of dried latex increased from 3,000 kip per kg to 7,000 kip per kg in 2004, this became a national sensation not only provoking more farmers to plant rubber, but also stirring the interest of policy makers that were keen in achieving multiple goals of the government policy: stabilizing shifting cultivation practices, eradicating opium production in the upland areas, and alleviating rural poverty. The timing could not have been more appropriate, especially for the Chinese investors that sought to expand their business in northern Laos.

As interest in rubber increased, a number of issues have also been identified. One major concern is the widespread conversion of forest land its implication on natural resource management and local livelihoods. For example, Schipani (2007) points out the detrimental impact the expansion of rubber has had in Luang Namtha on forest conservation and ecotourism activities. At the regional workshop on rubber development in Laos held in Vientiane in May 2006, policy-makers from different levels were provided an opportunity to learn lessons about rubber from experiences of other countries in Southeast Asia and South Asia (NAFRI, NUoL and NAFES 2006).

Several of the issues raised at this workshop were evident in the study areas, including:

- ✔ Lack of institutional support for small holder rubber either through credit schemes or clear guidelines and standards to entering into contracts with foreign investors.

- ✔ Little systematic use of land use methods to plan where it is appropriate to plant rubber.
- ✔ Extension agents lack basic knowledge and skills in providing support and information to rubber'
- ✔ Farmers need to diversity their income rather than relying solely on rubber. This could be from having multiple sources of income or from intercropping or developing agro-forestry system with rubber.

3.1 Status of rubber planting in Oudomxay province

Rubber planting in Oudomxay started in 2003 and has experienced a rapid expansion since. According to PAFO (Table 2) more than 4,500 ha are being planted in four districts. Following the agreement between three northern provinces (Bokeo, Luang Namtha and Oudomxay) in October 2005 to restrict rubber concessions[8], PAFO in Oudomxay is keen to promote contract farming and smallholder rubber planting together with private investors. There are six companies investing in rubber in Oudomxay (Table 3). These consist of one joint venture (Sino-Lao), four Chinese companies (Ying Jiu Pa, Jien Fong, Jien Taly, Chongxay) and one Lao company (Siphansalika). In addition, there are a number of private individuals from Laos investing in large-scale rubber plantation in Namo (500 ha) and Xay (207 ha) districts. It was also estimated by the Oudomxay PAFO that small-holders have planted around 1,000 ha on their own.

Table 2: Estimated are under rubber planting in Oudomxay (Unit: ha)

District	2003-4	2004-5	2005-6	Total
Xay	9	132	967	1,108
Namo	74	76	350	500
Houn	768	43	840	1,651
Beng	-	488	784	1,272
Total	851	739	2,941	4,531

Source: Oudomxay PAFO (2006)

Table 3: Rubber investment in Oudomxay

Companies	District	Approved area of investment (ha)	Duration of investment (years)	Date of investment approval	Area planted 2005-2006 (ha)
Sino-Lao Joint	Xay	5,000	30	Oct 2005	488
Ying Jiu Pa	Namo	2,500	30	Mar 2006	200
Jien Fong	Houn	6,666	30	Jul 2005	500
Jien Fong	Beng	2,000	30	Jul 2005	750
Jien Taly	Houn	2,500	40	Aug 2006	40
Siphansalika	Beng	2,000	15	Aug 2005	660
Chongxay	Xay	2,000	30	Aug 2006	40
Total		22,666			2,678

Source: Oudomxay PAFO (2007)[9]

According to the Deputy Head of PAFO in Oudomxay, rubber is seen as one of the many cash crops which could enhance the living standards of upland farmers. PAFO is particularly keen on promoting industrial plantations, cash crop production (e.g. maize and Job's tears), livestock production (especially cattle) and

NTFP production, especially peuak meuak (*Boehmeria malabarica*), bitter bamboo and cardamom. Industrial plantations include eucalyptus (for essential oil extraction), rubber, jatropha[10] and agarwood.

3.2 Status of rubber planting in Luang Prabang province

According to figures provided by PAFO, rubber planting started to expand in seven districts[11] beginning in 2003. It is estimated that rubber was planted on approximately 300 ha by 2005 (Table 4). According to the Head of the Provincial Department for Planning and Investment (PDPI), this figure rose to 2,500 ha in 2006, an increase by approximately eight times.

Table 4: Estimated are under rubber planting in Luang Prabang (Unit: ha)

Districts	2004	2005
Luang Prabang	3.0	20.0
Chomphet	46.0	34.0
Xiengngyeun		6.7
Nan		56.4
Nambak	24.3	132.1
Viengkham		48.0
Pakxeng		22.2
Total	73.3	319.4

Source: Luang Prabang PAFO (2006)

Four investors have been approved by the Provincial Governor to plant rubber on a total of area 17,000 ha (Table 5). This includes two Chinese companies and two Lao companies. One of the investors, Sino-Lao Company operating in Nambak district of Luang Prabang was given a concession to plant rubber jointly with Mr. Thongly totalling 7,000 ha (See also Appendix 1).

Table 5: Rubber investment in Luang Prabang [12]

Companies	Year of approval	District	Concession area (ha)
Sino-Lao	2002	Nambak	
Tongly	2002	Nambak	7,000
Kouangsy	2003	Ngoy, Viengkham	5,000
Chonghe	2005	Chomphet, Nan	5,000
Total			17,000

Source: Luang Prabang PAFO (2006)

However, both the PAFO and the Provincial Planning and Investment Office stressed that rubber is only one of many development options in Luang Prabang. Tourism is the most lucrative business in the province and is increasing the demand for food production. Another market opportunity is demand for wood furniture which still makes teak a popular option. Table 6 shows teak plantations are still predominant in Luang Prabang although rubber planting has increased by 25 percent between 2004 and 2005.

Table 6: Share of tree plantation in Luang Prabang: 2004-2005

Type of tree	2004		2005	
	ha	%	Ha	%
Teak	568.3	51%	675.1	52%
Paper Mulberry	283.0	25%	160.0	12%
Bamboo	31.2	3%	30.2	2%
Agarwood	37.3	3%	85.3	7%
Rubber	73.3	7%	319.4	25%
Fruit	121.8	11%	26.5	2%
Total	1,115	100%	1,297	100%

Source: Luang Prabang PAFO (2006)

4. Situation of rubber planting in Phonexay and Namo districts

4.1 General situation

Phonexay and Namo are both project districts of NAFRI/LSUAFRP. These two districts are among the 47 poorest districts identified by NGPES (GoL 2004). Phonexay is located away from the main road leading north from Luang Prabang and limited access roads to upland villages. The mountainous topography of Phonexay also poses more challenges for agricultural production. On the other hand, Namo is easily accessible as the main road to China cuts through the district offering many commercial trading opportunities. LSUAFRP began working in nine villages of the two districts in 2002, with the focus to improve sustainable agricultural production in the upland areas and rural farmers' well-being. Introduction of rubber in the two districts began in 2003 as farmers began to hear about the success of Had Nyao village in Luang Namtha province.

4.1.1 Namo District

In Namo, rubber area has increased rapidly since its inception. Due to its location close to the Chinese border and to Luang Namtha, farmers are becoming more engaged in rubber and cash crop production. According to the latest figures, there are approximately 630 ha of rubber planted in more than 13 villages of the district (see Table 7), of which two thirds were planted in 2006. This is an increase from seven villages in 2004 totalling less than 100 ha (Land Management Component 2005). The rapid expansion of rubber in 2006 was partly prompted by a Chinese company (Ying Jiu Pa Company Ltd.) which was officially approved in 2006 to promote contract farming with local villagers in the district.

There are a total of 40 households participating in the integrated rubber planting trials of LSUAFRP totalling 39 ha. Table 7 also indicates that a large majority of farmers plant rubber on their own. The majority of the farmers are planting rubber on their swidden and fallow fields that are close to the road (Also see Land Management Component 2005).

Table 7: Area of rubber planting in Namo district in 2006 (Unit: ha)

Villages	Contract farming	Using their own capital	Supported by LSUAFRP	Total
Namo Tai	3	3	10	16
Namo Neua	13	17	6	37
Pangdou		16	10	26
Pangthong		62	7	69
Houayxang	2.5	36		38.5
Nahom		95		95
Mixay		4		4
Kokfat		87	6	93
Namxei	4	4		8
Phouthong	4	4		8
Natong	9	9		18
Nampheng	4	4		8
Houayoil		8		8
Other villages	46	161		207
Total	85.5	510	39	634.5

Source: Interview with DAFEO (2006)

4.1.2 Phonexay District

In Phonexay the interest among farmers to plant rubber is also growing. However, the total area that has been planted is just seven percent of Namo district. There are four villages planting today and the total area is a little less than 50 ha (Table 8). According to the District Governor, no company has been approved to plant rubber with farmers in Phonexay; however, several private investors have already approached the district to seek permission to invest in rubber. The District Governor does not perceive rubber as the only crop that is suitable for uplands. Teak and fruit trees, as well as livestock production are also considered an option for upland farmers. The expansion of rubber in Phonexay is currently inhibited by poor road conditions, mountainous terrain and its distance from the main production centres along the Chinese border.

Twenty-four households in two villages (Houaymaha and Poungpao) are participating in integrated and inter-cropped rubber planting trials with LSUAFRP, totalling an area of 22 ha. In addition, there are a number of farmers in villages along the road that have set up nurseries for rubber seedlings. As in Namo district, farmers are using swidden and fallow fields along the road that are not occupied by teak to plant rubber. There is no indication of farmers cutting down teak forest to replant with rubber.

Table 8: Area of rubber planting in Phonexay district in 2006 (Unit: ha)

Villages	Using their own capital	Supported by LSUAFRP	Total
Nam Bo	19		19
Houaymaha and Poungpao	5	22	27
Thangkham	0.6		0.6
Total	24.6	22	46.6

Source: Interview with DAFEO (2006)

4.2 Characteristics of households planting rubber

Thirty-nine households were interviewed in eight villages of Namo and Phonexay. Table 9 shows 24 households (more than 60 percent) are planting rubber, out of which 14 are using their own financial resources to plant rubber. Also in Namo, four households are experimenting with different planting arrangements

Table 9: Rubber planting arrangements of interviewed farmers

Types of planting arrangement	Phonexay	Namo
	No. of HH	No. of HH
Supported by project (A)	2	1
Using their own resources (B)	7	7
Planting with the company (C)	0	3
Not planting rubber (D)	8	7
A and C	0	1
A and B	0	1
B and C	0	1
Others	0	1
Total	17	22

Source: Fieldwork (2006)

Out of the nine households that are planting rubber in Phonexay five of them began to plant in 2005. Meanwhile in Namo, nearly half of the households began to plant only recently in 2006 (Table 10).

Table 10: Numbers of families planting rubber: 2004-2006

Year of planting	Phonexay (No. of HH)	Namo (No. of HH)
2004	1	4
2005	5	4
2006	2	7
Total	8	15

**Data from one household in Phonexay is missing.*

Source: Fieldwork (2006)

The ethnicity of the households participating in the study is depicted in Table 11. In both Phonexay and Namo, Hmong ethnic groups are well represented. Khmu villagers constitute roughly one third of the households interviewed in Phonexay but none in Namo, whereas Tai Dam and Lao villagers represent almost 60 % in Namo but none in Phonexay.

Table 11: Ethnicity of households interviewed

Ethnic groups	No. of households in Phonexay	No. of households in Namo
Hmong	11	8
Khmu	6	0
Tai Dam	0	13
Lao	0	1
Total	17	22

Source: Fieldwork (2006)

The average rubber holding per household within the study's sample is 1.6 ha (Figure 3). While this is larger than smallholder rubber plantation in Xishuangbanna prefecture ranging between 0.1 and 0.5 ha (Chapman 1991), this is still smaller than smallholder rubber plantations in other Southeast Asian countries ranging between 2 to 5 ha (Gouyon et al. 1993, Yung et al. 2005)[13]. In the sample of 24 households planting rubber, only one family in Namo (Pangthong village) claimed to manage more than 5 ha of rubber.

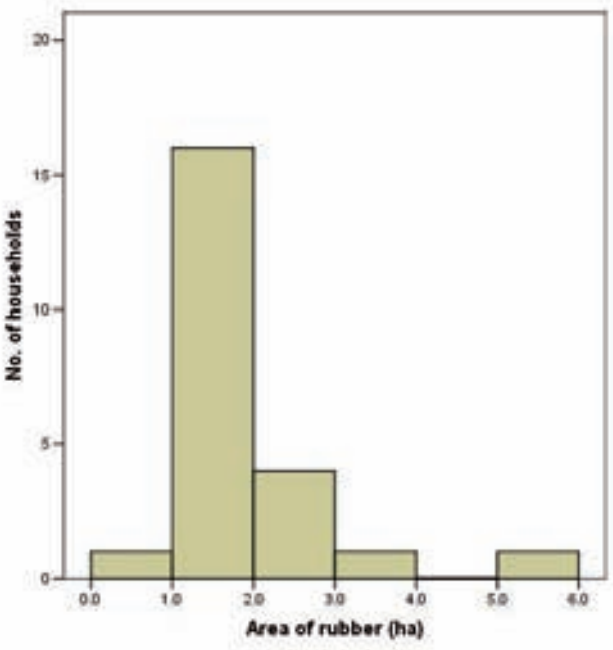

Figure 3:Households planting rubber and land size in two districts

Table 12 indicates that farmers who are planting rubber also have more access to agricultural land (i.e. paddy rice, rubber, other agricultural fields) than those not planting, In addition to land, Table 13 indicates more than 40 percent of households planting rubber have labour sources greater than two persons. The table also suggests households that are planting have more household labour compared to those that are not planting rubber.

Table 12: Average agricultural land of smallholders (Unit: ha)

	Households planting rubber	Households not planting rubber
Namo	4.9 (1.4)	2.7 (1.5)
Phonexay	4.8 (1.4)	3.2 (2.8)
Average of two districts	4.9 (1.4)	3.0 (2.3)

** Standard deviation within parenthesis. Data from two households are missing.*

Source: Fieldwork (2006)

Table 13: Labour units in relation to decision of planting or not

Labour units per household	No. of households planting	No. of households not planting
One or two	12	11
More than two	11	3
Total	23	14

**Data from two households are missing.*

In terms of ethnicity and rubber planting, Table 14 indicates more than 50 percent of the households interviewed are Hmong, which is followed by Tai Dam households. Hmong farmers are known for their shifting cultivation practices but also for their quick adaptation to commercial agriculture. While many of the Hmong households previously engaged in opium cultivation, recent relocation to lower elevation had forced them to adapt their agricultural production systems to more sedentary practices. On the other hand, Thai Dam farmers in Namo are long time residents and could access reserved or unused land.

Table 14: Ethnicity in relation to decision of planting or not

Ethnic groups	No. of households planting	No. of households not planting
Hmong	14	5
Khmu	1	5
Tai Dam	8	5
Lao	1	0
Total	24	15

Based on household interviews, the majority of farmers became interested in planting rubber either through visiting their relatives, or by learning from others (see also Appendix 2). Many farmers visited their relatives in Luang Namtha province or Meng La County in Xishuangbanna Prefecture (China). Here they saw households that planted rubber over a decade ago and were earning steady income from the sales of latex. They also mentioned that they received technical information on planting and maintaining rubber from relatives and friends in Luang Namtha or Mengla County. Even households not planting rubber also aspired to plant rubber, if they had access to capital. These farmers also planned to use their swidden and fallow lands to plant rubber using their own household labour.

Some farmers in Namo district decided to participate in contract farming with a private investor from China (Ying Jiu Pa Company Ltd.) because they lacked capital to invest on their own. As there is still virtually no opportunity for smallholders to access credit to plant rubber, the only option available is to enter into contract farming (see also Alton et al, 2004 on the case of Had Nyao). A number of farmers pointed out the advantages of contract farming with Chinese companies; access to planting material, technical supervision on rubber management, and market distribution of latex[14]. However, farmers also considered the long-term profit sharing arrangement with the Chinese investors as being economically disadvantageous to them as the perceived profits accruing from their labour inputs were fixed throughout the tree life.

4.3 Land use

4.3.1 Land conversion and land-use conflicts

Farmers in Phonexay and Namo are converting, or have plans to convert, their old swidden and fallow fields to grow rubber. On average, farmers have three upland plots and generally use one of the plots located along the road to plant rubber.

According to the land use survey conducted by the Land Management Component in Pang Dou village in Na Mo, there was a significant reduction of forest land between 2005 and 2006 (Table 15). Conservation and protected forest areas declined by 50 and 32 percent respectively while village use forest declined by 48 percent. At the same time upland agricultural land increased by 76 hectares or 18%. The significant reduction of forest land was triggered in part by the expansion of rubber but primarily by re-location of new families to pang Dou village as part of the government policy to consolidate remote villages. Concentration of population has made land more scarce and led to increased conflicts as farmers struggled to seek means of livelihood through commercial agriculture production.

Farmers interviewed in Pangdou village mentioned that the increased clearing of forest area for rubber has affected communal resources including NTFPs and water supply for paddy fields (Land Management Component 2005). Expansion of rubber has also triggered conflicts over livestock grazing. Many families interviewed in Namo Tai and Namo Neua have sold their cattle due to expansion of rubber and other cash crop production into areas where they used to free graze their cattle. New village rules have also been established to fine owners that free graze and damage other farmers' crops, namely young rubber trees. At the same time, loss of grazing areas in nearby fields have made farmers seek grazing land far from the residential areas, adding more family labour to look after their livestock.

Table 15 Land Use Change in Pangdou village, Namo District (2005-2006)

Land Use Category	2005 Area (ha)	2006 Area (ha)	Changes
Protection Forest	91	62	-32%
Conservation Forest	72	36	-50%
Village Use Forest	33	17	-48%
Regeneration Forest	8	8	0%
Upland Agriculture	413	489	+18%
Other areas	4	10	+150%
Cemetery	2	2	0%
Total	623	624	0%

Source: Land Management Component (2005)

4.3.2 Land suitability zoning and site selection

Another land-use issue regards the selection of sites for rubber planting. In the case of Namo district, Ying Jiu Pa Company Ltd. has signed an agreement to invest in contract farming with local villagers (see also Appendix 1). The company seeks a total of 6,700 ha for rubber planting and processing[15]. However, prior to the agreement the company and the district did not carry out any land suitability study to identify the most suitable areas to plant rubber. Nor were any social or environmental impact studies carried out to understand the existing conditions of the land. As shown in Table 16, there is less than 3,000 ha estimated as being suitable according to an assessment made by the Soil Survey and Land Classification Centre/NAFRI.

Table 16: Areas suitable for rubber planting in Phonexay and Namo

District	Current (2006)	Highly suitable	Moderately suitable
Namo	635	191	2,680
Phonexay	47	1,300	0

Source: based on interview and survey of SSLC (2007)

In 2005, the Land Management Component of LSUAFRP piloted a method to identify potential areas suitable for rubber planting (indicative rubber suitability zoning) in Pangdou and Pangthong villages. The procedure used three physical parameters, elevation, land slope and land use type to identify potentially suitable areas for rubber, i.e. elevation no greater than 700 masl, slopes less than 36%, and swidden agricultural land. Areas of forest and paddy land were excluded in the process. Once the suitable areas were mapped using GIS, they were used with villagers to verify suitable areas "on the ground" (Land Management Component 2005). Following the exercise, a simple set of technical recommendations was also developed and provided to the district staff. However, villagers in the district appear to know very little about appropriate site selection for rubber which indicates that this procedure has not been widely applied by district staff to identify suitable areas to plant rubber.

For example, farmers who started planting rubber at a relatively early stage claimed that secondary forest was most suitable for rubber due to rich soil nutrient. Another group of farmers claimed that rubber can grow anywhere. During our fieldwork we found that even extension staff at DAFEOs were unfamiliar with physical properties suitable for rubber planting such as elevation, temperature, rainfall, wind velocity, and so forth. It is also noteworthy that PAFO in Luang Prabang recommends farmers not to plant rubber higher than 600 masl, whereas DAFEO in Phonexay suggests planting no higher than 900 masl.

4.3.3 Lack of information on rubber planting at district level

In both Namo and Phonexay, there is a general lack of information on where rubber is actually being planted and the way it is being planted. DAFEO is obliged to report areas under cash crop every year to PAFO, but the state of rubber planting in both districts has not yet been assessed. There also seems to be

no systematic way to collect information of different types of arrangements under which rubber is being planted. While the area under contract farming may be estimated based on records of agreed contracts with investors, it is particularly difficult to assess the area under which individual farmers themselves are planting on their own.

Investment plans to use large tracts of land for rubber planting, even for contract farming with local villagers, are seemingly approved without actual identification of the land on maps. While both local line agencies under PAFO and Provincial Investment and Planning Committee (PIPC) are responsible for foreign investments in agriculture land use information is not mutually shared.

4.4 Technical issues

4.4.1 Extension techniques and access to technical information

China has become an important provider of not only financial capital but also technical inputs for farmers wanting to plant rubber. Wealthy farmers in the border areas often purchased seedlings directly from China. Others collected or purchased seeds and produced their own seedlings. Some of the well off-farmers in Sing District even hired Chinese labour for planting, especially experienced former State-Farm workers, despite the high costs required. Those farmers that hired Chinese labour felt more confident hiring them rather than local labour as the Chinese were more experienced planting and maintaining rubber. Farmers who cannot afford to hire Chinese labour hired local labour to assist with slashing and clearing, while household labour is used to plant rubber.

Box 1 summarizes the techniques commonplace in China for planting rubber. Luang Namtha's PAFO has also prepared information on rubber planting techniques (see Box 2) based on existing information from Thailand and on their first hand experience (pers. comm. with official from Luang Namtha PAFO). One of the main differences between the two sets of information is that the information prepared by PAFO in Luang Namtha does not mention anything about critical aspects for site selection including slope, wind way, and amount of sun light. The information provided by Luang Namtha PAFO is one of the few technical handbooks widely available on rubber in northern provinces. More information is needed by both technical staff and farmers on a range of technical issues including: plantation maintenance (e.g. weeding, fertilizer application, pest and disease management), different characteristics of clonal varieties, processing, and marketing

For the most part, farmers in Namo and Phonexay districts access information on rubber through informal exchange with other villages and through their relatives as there are little information available through

Box 1: Standard rubber planting technique in China

1. Survey land and marking land. Critical features are slope, wind way, and amount of sun light. Land is prepared using both tractors and human labour.
2. Prepare terraces for land located on mountain slope greater than five degrees.
3. For mono-cropping, seedlings should be planted 5 x 7, 3 x 7, 3 x 6, 3 x 5.5 or 3 x 4 meters apart. If other crops are intercropped rubber seedlings should be planted 2 x 8-10 meters or 3 x 15-18 meters apart depending on intercropped material.
4. Holes for planting rubber seedlings should be 80 centimeter wide and 50 centimeter length, and should be at least 60 centimeter deep.
5. Rubber trees should be planted before the rainy season begins.
6. Weeding should be done at least around 1 meter diameter from the tree. The ground should be covered to keep the moisture in the ground. If the trees do not grow well, chemical fertilizers can be added (205.5 kg of nitrogen per ha, 20.6 kg of phosphorus, and 92 kg of potassium).
7. Intercrops can be planted to control soil erosion, and retain ground moisture, as well as providing incomes for households through sales of intercrops.

Source: Thammavong (2007)

DAFEO and other local agencies. For instance, farmers in Nambo village (Phonexay District) have learnt to plant rubber from smallholders in Houaymaha and Poungpao villages of the same district that started to plant rubber a few years earlier. These farmers and others also claim that they began to take interest and learn ways to produce rubber seedlings from their relatives in Luang Namtha Province and also from Nambak district (Luang Prabang Province). Some of these relatives (particularly Hmong) had gained experience working on the State Farms in China.[16]

Box 2: Techniques of planting rubber in Luang Namtha

Land preparation

1. Holes of 60 x 70 x 80 centimeter are dug after the field is cleared. Holes should be spaced 8 – 10 metres apart side ways and 2 – 2.5 meters apart length. On sloping land, holes should be dug along the contour line.
2. Surface soil and bottom soil from the holes should be separated.
3. Surface soil should be placed at the bottom of the hole, while bottom soil should be placed to cover the rubber seedlings.
4. Soil should be placed back at least 30 days before planting seedling.

Planting

1. Rubber seedlings should be planted between the end of May and the end of June.
2. Dig a hole about 50 centimeters deep with a shovel.
3. Place the seedling in a hole and fill it with soil, step on the soil for compacting.
4. Grafted buds should be four to five centimeter above the ground.
5. Grafted buds should face the wind way or should be turned around away from the slope.
6. Buds should be protected after planting.
7. Soil should be mounded around the seedlings.
8. Rubber seedlings should not be left unplanted for many days as they are more prone to disease and pests.

Maintenance

1. Protect against disease and pests.
2. Weeding is necessary every year.
3. Branches should be pruned regularly and terraces should be fixed.

Source: Sisavanh (2004)

4.4.2 Clonal varieties and seedling quality

In general, it was observed farmers' had limited knowledge about different clonal varieties of rubber and little capacity to assess the quality of seedlings being planted. Out of 23 households planting rubber 17 households replied that they were not sure of the varieties that they were planting. This included numbers of households that were planting with the company (Table 17). Remaining six households including some of the households that participated in LSUAFRP trials either used combination of GT1 and 77-4 (see also Alton et al. 2004).

Table 17: Knowledge on clone varieties used by households

Clone varieties	No. of response
GT1 and/or 77-4	6
Not sure	17

While farmers planting with the company or with the project received seedlings, those farmers planting on their own either purchased or grafted seedlings by themselves. Although farmers sometimes are aware of the existence of different clonal varieties, they have little knowledge about what is suitable for their land and the ways to manage each variety for optimum production.

Most farmers that are grafting seedlings explain that they have learnt the technique from relatives and friends in other provinces and districts. In the case of Namo district, many farmers had connection with relatives and close friends in Luang Namtha where rubber planting begun earlier. In Pangthong and Pangdou villages, Hmong families that had relatives in Had Nyao village in Luang Namtha received advice directly from them when problems occurred. Farmers also travelled to villages in Luang Namtha to purchase budding materials for grafting. Although they still had limited experiences, early planters in Pangthong village were now beginning to produce seedlings for other nearby villagers and providing technical advice (Figure 4).

Photo: Y. Fujita

Some of the early pioneers planting rubber in Namo are beginning to produce seedlings on their own for sales to other farmers.

Figure 4: Local farmers' rubber nursery

However, even these pioneer rubber planters that sell seedlings in Namo district were not aware of the varieties that they were producing. One farmer commented, "(w)e bought rubber seeds for root stock and went

to Luang Namtha to purchase grafting materials. We purchased grafting materials from trees that were said to be growing well." This implies that the farmers are not only uncertain about the variety of buds that they are grafting but also of the rootstock. Table 18 indicates main problems faced by farmers planting rubber in two districts. Out of 18 households 16 claimed that they had causalities with seedlings in the first year after it was planted in the field (see Figure 5).

Photos: Y. Fujita

Villagers claim that seedlings are often damaged by termites and moles. According to Watson (1989), Huang and Pan (1993) rubber grown in China are prone to damage by cold climate. Damage can be caused by sudden drop of temperature below 5 degrees (with below 0 degrees on leaf surface) and day time temperature rising to 15-20 degrees, This often causes leaf margin to shrivel, spots appearing on lamina, dying of shoots and trees. Daily minimum temperature below 8-10 degrees for 3 consecutive days can also cause tree to die.

Figure 5: Technical problems of managing rubber

While farmers are uncertain about the direct cause of the problems, they suspect several reasons (Table 19). As shown in Figure 5, farmers in Namo thought that termite and moles were main cause of root damage, which caused young rubber trees to die. Farmers also suspect that discolouring of the leaves were caused by disease, although cold climate and shortage of water might have caused the damage. Labour shortage and contract farming were also minor problems among the households interviewed.

Table 18: Main problems faced by farmers

Main problem	No. of response
Tree damage	16
Labour shortage	1
Contract	1

Table 19: Main causes of problem

Main cause of problem	No. of response
Pest	8
Frost	2
Labour Shortage	3
Disease	4
Not sure	1

As there are limited extension services offered by DAFEO, farmers are currently seeking their own solutions to the problems (often by asking their relatives in other provinces). Out of 18 farmers, 12 farmers are replanting (or planning to replant) the trees on their own. Only two farmers applied pesticides that were purchased in China, but were not confident whether these were the right type of fertilizer or whether they have applied it correctly. Table 20 indicates that only three farmers were uncertain and did not take any actions. However, other farmers that took actions were also uncertain whether the actions taken would resolve their problems.

Table 20: Actions taken to solve problems

Actions	No. of response
Replanting	10
Planning to replant	2
Hire labour	1
Used pesticide	2
Not sure (no action)	3

During the interview, Deputy of PAFO in Oudomxay shared his concern over lack of control over quality of seedling. It is assumed that companies investing in the province use fairly good quality seedlings, however, there is no external control of the quality. A greater concern over quality seedlings looms as private nurseries are rapidly spreading as farmers' interest on rubber expand, and as individual farmers are beginning to produce and sell seedlings to other farmers. PAFO also does not have good access to information on rubber, especially information on clonal varieties and its advantages, as well as what varieties are suitable for planting in Oudomxay to support local farmers in maintaining healthy rubber plantations.

On the other hand, in Luang Namtha, PAFO is in the process of registering nurseries to control the quality of seedlings that are sold. However, as we have seen in Oudomxay and Luang Prabang, there are many private nurseries and there is no system to support farmers to refund or replace seedlings if the purchased seedlings do not grow well. Neither in Oudomxay nor Luang Prabang has there been any discussion on registering nurseries and controlling the quality of seedlings.

4.4.3 Intercropping and agroforestry

Intercropping signifies a system where one or a few crops are grown in the same field to complement production and economic benefit generated from each crop. It is also considered an alternative to monocropping which extracts soil nutrients, and requires intensive application of fertilizers and pesticides in order to retain high yields. Intercropping materials can be introduced to retain soil fertility and generate household income, thereby reducing risks and making households less vulnerable to the possible fluctuating yield and price of a single crop. Agroforestry on the other hand is a more complex system of growing woody plants with agricultural crops and or livestock on the same land. It is defined as an "interdisciplinary approach to

systems of land use"[17]. Agroforestry system can allow farmers to benefit from both annual and perennial crops and mitigate production and market risks.

All farmers interviewed intercrop rubber with annual crops including upland rice, maize, pineapple, groundnut and Job's tears for the first few years. While rice is the main crop in the first year, the selection of crops after the second year depends on soil conditions and the growth of rubber tree. However, once the rubber trees grow taller and the crown density increases, farmers generally tend to stop intercropping annual crops.

Among the households that were interviewed, only those working with LSUAFRP intercropped both annual crops and fruit trees (both Phonexay and Namo district) in their rubber field, since the LSUAFRP focused on rubber-based agroforestry systems that allow farmers to diversify types of crops on their rubber field and hence their sources of income. Based on case studies of successful farmers that participated in LSUAFRP on-farm trials, some of the farmers that are carrying out rubber based agroforestry systems are now benefiting from sales of annual crops that have been inter-cropped such as sesame, and pineapple.

Intercropping annual crops such as upland rice, maize and Job's tears during the first three years of planting rubber is a fairly common practice in other parts of northern Laos. Other common annual crops include pineapple and sesame. Meanwhile, in other places (Viengphoukha district in Luang Namtha Province and in Bokeo Province), farmers are experimenting with different crops including galanga in their rubber fields. In Had Nyao village, there is also an effort to raise honey bee in the rubber fields (See also Appendix 3). Farmers interviewed in Sing District in Luang Namtha, also showed an interest in growing fodder crop in rubber field to control weed and raise additional income from livestock production. However, this has not been tested in places that were visited by the research team.

Farmers interviewed in Phonexay and Namo districts did not use chemical fertilizers. Instead, farmers tend to use cattle dung mixed in the soil prior to planting. When asked why they are not interested to use chemical fertilizers, many farmers answered that there is no need since the soil is currently fertile, or that it is too expensive to purchase chemical fertilizers. A farmer who manages 10 ha of rubber in Sing District uses cattle dung to enrich the soil and also hires labour for weeding every year and occasionally uses pesticides to control outbreak of pests (Figure 6).

Farmer in Sing District in Luang Namtha uses cattle dung to improve the quality of soil. He purchases cattle dung from local villagers.

Weeding and pest control is an important part of rubber management. Farmer in Sing District hires 30-40 labour each year to weed 10 ha of rubber plantation. In 2006, he decided to use herbicide to manage weeds.

Photos: Y. Fujita

Figure 6: Fertilizer and pesticide use for rubber

4.5 Household economy and livelihood

4.5.1 Food security

Of the farmers interviewed, none were concerned about food security during the first few years when rubber is maturing. This may be due to the fact that they are using only a part of their swidden and fallow land to plant rubber leaving other land for food production. It could also be due to the fact that the early planters of rubber seem to be better-off families with more access to land and labour that have little problems in terms of food shortage (see also Thongmanivong and Vongvisouk 2006). Nevertheless, farmers are aware of the fact that it will take six to seven years before the trees begin to yield, so they spread their risks among other crops and activities. However, the loss of secondary forests, which is part of the swidden and fallow system, is a concern as it is an important source for non-timber forest products (NTFPs). As collection of non-timber forest products for food and household income have been an important part of rural livelihood system (Morris 2002, Yokoyama 2004), its loss affects households that are relatively poor and are dependent on these resources.

4.5.2 Access to credit

As can be seen from Table 7 and Table 8 (in section 4.1), a large proportion of smallholders planting rubber in Phonexay and Namo are doing this on their own with little support from the private sector or the government[18]. For the most part, farmers use relatively small parts of their land with capital generated from sales of cash crops and livestock.

Credit schemes have proved important for smallholders' capability of growing rubber in different parts of Southeast Asia (Barlow 1996, Chambon et. al. nd). Yet, providing credits also incurs risks that must be

managed. According to one source in Phonexay, credits were given to farmers who wanted to plant teak in the past. Teak has a long maturation period and many farmers ended up selling their teak plantations and tree stands to outsiders before they could harvest any of it since they were not financially prepared for the long unproductive period of teak planting. Considering the high interest in rubber planting, this scenario must be taken into account if planning to offer credits to smallholders. It also needs to be complemented with extension services.

4.5.3 Market access

Farmers interviewed in the two districts were not aware of the current market price of rubber and in many cases have not considered how they are going to sell their latex once they begin tapping. Most farmers planting on their own are confident that "the Chinese" will buy the latex once they start tapping. While there is a risk of plummeting prices if supply tops demand, some farmers stated that this would not constitute a problem, since they could leave rubber trees for a while and start tapping again when more favourable conditions emerge or in a worst case scenario sell the timber.

Farmers in Luang Namtha are currently tapping latex to produce rough blocks of dried rubber. Only in a few parts of Luang Namtha do farmers sell liquid latex to factories . Dried latex is collected by Chinese merchants that organize vehicles upon request of the Lao farmers. Previously, farmers and traders did not pay export/import tax on rubber from Laos to China as it was considered part of informal border trade. However, increased trade has resulted in the Chinese authorities reconsidering the status of the rubber trade and regulating the volume of its import. In 2006, Pang Hai (formerly known as Pangthong) - Meng Mang regional border in Luang Namtha was closed. This is the border area for which latex from Had Nyao village was transported[19]. This led local farmers to smuggle out dried latex from the border, incurring additional costs for transportation.

4.6 Contract farming

4.6.1 Foreign investment approval process and land management

The Law on Promotion of Foreign Investment[20] stipulates that any application for foreign investment in Laos must go through a one stop service at either national or provincial level. This one stop service is provided by the Committee for Promotion and Management of Investment (CPMI) (Article 19)[21.] At provincial level, the CPMI is located at the Provincial Division of Planning and Investment (PDPI) (Article 23). Thus, anybody wanting to invest in Laos must begin by contacting the PDPI. The investment plans are then reviewed by a committee consisting of various local government authorities.[22]

Particular procedures to be followed are then left to the regulating bodies of the provinces and districts. In Luang Prabang and Oudomxay, these procedures differ slightly, but both include preliminary survey of the

land by PAFO or DAFEO as well as a consultation between several institutions at provincial level to examine the feasibility and suitability of the investment prior to any decisions taken by the provincial governor.

During interviews, the director of PDPI in Luang Prabang expressed concerns about ability of the local government to assess the background of foreign companies that want to invest in the province. In particular it is difficult to appraise the company's seriousness, technical knowledge and financial capacity. Apparently, many investors approach different people to procure approval for their investment plan. It is unclear whether this is due to investors' lack of knowledge on procedures that they are supposed to follow, or because investors seek speedy approval to initiate their business operation.

Under the current investment law, the provincial government is entitled to authorize foreign investment no greater than 5 million USD (Vientiane Capital City, Savannakhet, Champassak and Luang Prabang) and 3 million USD (all other provinces).[23] The total investment of the Ying Jiu Pa Company in Namo is 3 million USD and thus falls under provincial jurisdiction. However, based on the current interpretation of the Forest Law (Article 14) the maximum forest land which provincial government is allowed to lease or concede is no more than 100 ha. In the case of the districts, the current Forest Law is interpreted so that the district government cannot lease or concede forest land exceeding 3 ha. This means that in the case of Ying Jiu Pa Company the district government conceded 10 ha for demonstration and 20 ha for nursery development in contradiction with the Forest Law. This indicates a gap between legislation on foreign investment and land management, which often leaves a room for local authorities to reinterpret its meaning and apply them to their advantage (see also Schumann et al., 2006).

4.6.2 Contract farming and smallholder in Namo district

Ying Jiu Pa Company is the only company that is currently investing in rubber contract farming in Namo district. The contract was signed in March 2006 between the District Governor of Namo and the director of the company. Copies of the contract were distributed among different provincial and district offices as they were enlisted as part of the committee that approved the investment plan. The contract stipulates that the company will provide seedlings and technical support. It will also purchase the latex when tapping begins. Farmers are obliged to provide land and labour. The profit sharing is 60% for farmers and 40% for the company for both rubber and timber once the trees are too old to be tapped. The price for rubber is set to the actual market price, but a floor price of 750 USD per ton is guaranteed in the contract[24]. The contract is valid for 30 years with an option for extension, which is unspecified in time. This is typical contract arrangement which is often referred to as the "2 + 3 scheme".

The majority of farmers interviewed in Namo expressed their dissatisfaction with the profit sharing arrangement as stated above. They all thought that a 70-30-arrangement (70% for farmers and 30% for the company) would be more appropriate given the fact that the main source of labour was provided by the

farmers themselves throughout the life of the tree. Therefore, many farmers hesitated to enter into the agreement with the company. On the other hand, the head of the DAFEO mentioned that the 60-40 arrangement allowed the company to recover initial investment costs, including the development of a processing factory and feeder roads to the plantations that would potentially provide benefits for other farmers and the district.

Another problem is the significance of the contract. While the contract signed by the District Governor states that it is an investment for contract farming of rubber in a single village, the content of the contract covers all of Namo district. This implies the nebulous nature of the contract and its general weakness as a legally binding contract. Contracts for households are also not developed.

According to the existing contract, the Ying Jiu Pa Company seeks to plant rubber in total of 6,700 ha in the district. However, they are only approved to plant on a total of 2,500 ha during 2006-2009[25]. The contract does not include a map indicating the area, nor an assessment of total land that was found suitable for planting rubber in the district as mentioned in the previous section. At the same time, the contract also states that if the 2,500 ha are not planted within the time specified (2006-2009), the district authorities have the right to nullify the contract[26].

Apart from these issues, there are other aspects that also are unclear. The language in the contracts is often vague; for example it is mentioned that the district government has the right to follow up, examine and evaluate the impacts on environment without further specifying the agencies nor the process. Up to this date, there has not been an environmental or social impact assessment. The contract also says that the district government has the right to benefit from the investment of the company, without further clarification of what the benefits are. The company is also supposed to provide social welfare, secure health and safety of the company's workers. It is unclear what these terms actually mean and it is even less clear who it refers to. Finally in Part II, Article 2 states that the contract serves to protect the two parties of the contract, the District government and the company. However, protections of farmers' benefits are not clearly stated in the contract.

5. Conclusion and recommendations

Although rubber might become an important source of income for different stakeholders in Laos in the future, there are several reasons to be cautious about promoting rubber as a way of decreasing poverty in rural areas. This study indicates that smallholders that are currently engaged in rubber planting and those that are likely to benefit are those farmers that are relatively well off, and have access to both land and capital. The lack of coordination and clear process to plant smallholder rubber development also have severe implications on natural resources and local people's livelihood options.

The following section provides an initial set of recommendations. These recommendations will be further discussed with key stakeholders at NAFRI, NAFES and in two districts to develop a viable action plan.

5.1 Land management

While population movement is not a recent phenomenon in Laos, there has been series of relocation and resettlement programmes over the past decade. This has resulted in concentration of population along the road[27]. Numerous studies point out the problem caused by population concentration, particularly increased competition over productive agricultural land and natural resources (see also Vandergeest 2003, Evrard and Goudineau 2004). Increased market opportunity is also aggravating competition among farmers and facilitating privatization of land. As intensive land use requires greater capital and labour input, it is often the well-off households that are taking advantage of the current privatization while relatively poor households whose livelihood depended on the use of communal land and natural resources are marginalised.

A second problem is that without considerations of physical and social conditions rubber might be planted on inappropriate land. The fact that different agencies have widely differing recommendations about proper altitude for planting rubber, and little understanding on what types of land are most suitable for rubber planting, highlights this problem. It is also clear that smallholders themselves do not have good knowledge on where rubber should be planted, as it is not a traditional crop.

A third issue is the matter of allocating land for contract farming or approving foreign investors to work with villagers. While contract farming can provide necessary inputs for farmers and lead to financial benefits, the current situation does not assure long-term security for farmers. Local people's basic needs for resources, including fuelwood and other NTFPs for food and household income and grazing land for large livestock need to be considered. The current procedure to approve foreign investments for contract farming does not fully incorporate land use planning prior to investment activity.

Recommendations:

- ✔ In order to minimize potential land conflicts, a high priority should be placed on clarifying village boundaries and securing long-term land use rights of smallholders. Land use planning should be revised according to the situation in the village and demand for agricultural land and natural resources. There should be also a greater effort to formalize land tenure to ensure household's tenure rights and clear demarcation of areas for conservation purposes.
- ✔ Indicative rubber zoning methods tested in 2005 should be further used to identify areas that are not suitable for planting rubber. This should be done together with district staff and cluster village leaders (*Hua Na Kum Ban Pattana*) so they learn the basics of rubber suitability zoning.

- ✔ A system for collecting and managing data of rubber planting should be set up. This could include basic information on households that are planting rubber under different types of arrangements, varieties used and where they plant. This could serve as a good basis for further research on improving production and management. Reporting procedure could be fairly simple, with the *Hua Na Kum Ban Pattana* reporting once every year to district staff.

Potential future research

- ✔ **Investigate where rubber has been planted and its implications on forest resources**: It is suggested that further research be conducted on where rubber has been planted and its impacts on forest cover, biodiversity and watershed functions.
- ✔ **Investigation on access to land**: A study should examine who have access to land for planting rubber and its implication on social equity

5.2 Technical issues

A major concern is the lack of quality control for clonal varieties that are introduced. One of the main problems faced by farmers that were interviewed for this study was low survival rate of rubber trees. It is possible that the seedlings that are introduced are poor in quality, or that varieties introduced are inappropriate for the area. There are little information in Lao language on the characteristic of different rubber varieties available for farmers and agricultural extension staff at district offices. There is also limited information translated in Lao language about management of rubber plantations, and the ways to solve problems of tree damage due to cold climate, pests or disease.

Another technical concern is intercropping. While intercropping of annual crops is practised by farmers (e.g. rice, maize, Job's tear), there is no consideration regarding alternative planting arrangements to diversify households' income over the long-term. More information should be translated and made available for farmers so they can choose the best options. At the same time, research institutes such as NAFRI should also consider the economic viability of different alternative crops and encourage more integrated farming system for upland farmers.

Recommendations:

- ✔ Improve the quality control of nurseries and knowledge of different clonal varieties:
  - o Make an inventory of all the nurseries in the districts, and collect information on where nurseries are, what varieties are produced and sold, and who they sell them to.
  - o Set up a system for regular quality and varietal checks and issue certificates for the nurseries that produce high quality seedlings. As little expertise exists in Laos for making quality checks, this could possibly be done in cooperation with Chinese and/or Thai experts.

- ✔ Develop a set of information on rubber for farmers and district staff. Material from the Rubber Research Institute of Thailand (RRIT) and Tropical Crop Research Institute in Xishuangbanna, China should be used. This could be coordinated by the Agriculture Information Management (AIM) Working Group of NAFRI and NAFES. This could include topics such as:
  - o Impacts of cold climate, pest and disease management, how to manage bud gardens and undertake grafting, potential and limitations of different clonal varieties, and simple guidelines for where to plant (slope, soil, elevation, region, etc.).
  - o Diversified agricultural systems and options other than rubber (cash crops, NTFPs, livestock)
  - o Current market prices and why markets fluctuates, options for processing and handling latex, why market fluctuates and raising awareness on benefits of production groups
  - o Check list for contracts and the rights and responsibilities of farmers, where to go in case of grievances or how to solve land use conflicts, etc.

Potential future research

- ✔ **Investigate technical knowledge on seedling production and knowledge on different varieties among smallholders putting up private nurseries**: Such a study could be combined with informing nursery owners of adequate technology for budding, grafting etc. The study could also highlight technical constraints faced by local extension workers and villagers.
- ✔ **Comparative study on integrated farming systems:** this could explore the strengths and weaknesses of rubber monoculture versus diversified systems.

5.3 Socioeconomic and livelihood issues

Considering the enormous interest among farmers to plant rubber it is important that district staff at DAFEO have the knowledge and capacity to provide farmers with an informed picture of the pros and cons of rubber planting. At the moment, DAFEO does not have the capacity to assess rubber planting nor the ability to provide timely information to farmers.

From this study it is obvious that smallholders planting rubber have little knowledge of the market for rubber. They do not know whom to sell to (unless they practice contract farming) and they do not know what the market price is. They are also unaware of the regional trade conditions, such as import tax imposed by the Chinese. This is worrying since the scarce knowledge of the market puts farmers in a weak bargaining position. Furthermore, there is little discussion on alternatives to rubber and different ways to increase livelihood options for upland farmers.

Recommendations

- ✔ Information about market price and demand are important for smallholders planting rubber. A systematic way of disseminating market information to smallholders should be developed.

- ✔ DAFEO should encourage the formation of smallholder groups at the village cluster level. These groups could function as forums for exchange of technical expertise, improving credit, improving processing and negotiating prices. Farmers in Namo and Phonexay can learn from experiences of Had Nyao village in organizing production group that collectively negotiate with traders from outside.
- ✔ There should be an in-depth study on the economics of rubber for smallholders. The study should not only focus on yield and income from rubber production but also provide ideas for alternative agricultural production (i.e. livestock, NTFPs, agroforestry, etc.).

Potential future research

- ✔ **Comparing the financial benefits of different commercial crops:** While the current trend is focused on rubber monocropping, there should be other options available for smallholders that allow farmers to diversify their household economy. Research should focus on comparing the different options available to farmers in the North from cash cropping, NTFP production, livestock to ecotourism.

- ✔ **Impacts of rubber on NTFP and communal resources management**: it will be important to study the changes in NTFP occurrence and use in areas where rubber is being planted and how this affects household economies and livelihoods.

- ✔ **Investigate how smallholders can increase efficiency through group formation**: It would be worthwhile studying what kinds of informal and formal arrangements already exist in rubber planting areas and how successful they are, as well as investigate what type of groups could be established.

5.4 Contract farming

As mentioned earlier, there was no study prior to signing the contract to assess areas suitable to plant rubber or work with farmers to get their feedback and interest on the contracts. Another fundamental problem is that district authorities have limited experience in formulating a contract with foreign investors and approving investment activities through a participatory process.

There are advantages for farmers to engage in contract farming (or the "2+3 scheme" advocated by the Ministry of Agriculture and Forestry) as investors can provide inputs, extension services as well as access to markets. However, there are also risks related to contract farming if the terms of contracts are not clearly agreed from the beginning. The fact that rubber is still a new crop for Lao farmers also increases the risk of market or production failure (Eaton and Shepherd, 2001). These risks should also be seen in the light of the long term investment that rubber constitutes. In order to benefit from the advantages of contract farming, it is important to ensure that investors are reliable and have the capacity to establish successful contract

farming. It is also necessary to develop mechanisms to enforce contracts both on the part of farmers and companies. Finally, contract farming should not limit the options of farmers but be seen as a means to improve the livelihood options of farmers who lack access to credit.

Recommendations

- ✔ Current legislation should be commonly applied and understood by main stakeholders at provincial and district level. In addition, national agencies, such as the National Land Management Authority (NLMA), should improve policy implementation at local level. In Namo and Phonexay, this could be done out by NAFRI with the help of NLMA.
- ✔ Develop a check list for contract farming that complies with current legislation and provides smallholders and district staff with simple guidelines for understanding contracts. This can be done in collaboration with other agencies including GTZ in Sing District and NAFES.
- ✔ Ensure that smallholders are involved in the process when designating land for rubber planting through concession or contract farming. LSUAFRP should establish contacts with the companies working in or planning to work in the districts for regular information exchange, in order to involve smallholders in the decision making process.

Potential future research

- ✔ **Study different contract farming models**: compare advantages and disadvantages of different contract farming arrangements in Laos and understand principle elements of success. This could be done in collaboration with NAFES.

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Appendix 1: Contract farming and concession arrangements

Companies	Ying Jiu Pa Co.	Jia Chuang Rubber Planting Promotion Co.	Sino-Lao Jinrun Development Co.
Location	Namo District, Oudomxay	Nale District, Luang Namtha	Nambak District, Luang Prabang
Contracting party (Lao govern. counter part)	District government office of Namo District	Provincial Planning and Investment Office and PAFO	Nambak District
Origin of contract	Provincial Committee of Foreign Investment Promotion	Provincial Planning and Investment Office	District government office of Nambak
Date of approval of the investment	29 March 2006	-	20 December 2004
Approved by	Provincial governor	-	Provincial governor*
Investment duration	30 years	-	40 years** (1 January 2005 to 31 December 2044)
Total area of investment	6, 700 ha (maximum of 2,500 ha during first three years i.e. 2,469 ha for contract farming, 31 ha for concession/lease, 10 ha for demonstration plot, 20 ha for nursery)	2,000 ha (500 ha in year 1, followed by 1,500 ha in year 2)	7,037 ha (i.e. 30 ha for nursery in three villages, 2 ha for office space, 5 ha for factory, 7,000 ha for planting rubber in three villages by forming a nikhom)
Types of arrangement	Contract farming	Contract farming	Cooperative (nikhom)
Inputs provided by the company	Rubber seedlings, intercrop materials, technical trainings, equipment, road development, fertilizer, and pesticide	Rubber seeding, technical services, fencing materials, equipment, fertilizer, and pesticide	Rubber seeding, technical services (but the village level contract requires both the company and the village to share the investment cost).
Inputs provided by the farmer	Land, labour (i.e. land clearing, planting, maintenance, tapping)	Land, labour (i.e. land clearing, planting, fencing, maintenance, tapping)	Half the investment cost, labor
Benefit sharing (latex)	60 percent (farmers), 40 percent (company)	65 percent (farmers), 35 percent (company)	65 percent (farmer)*** 30 percent (company) 2 percent (village communal fund) 3 percent (technical service fee for DAFEO/PAFO)
Benefit sharing (timber)		-	70 percent (farmer) 30 percent (company)
Price of rubber	Market price at time of tapping (floor price is 750 USD per ton).	-	Market price at the time of tapping

** In 28 March 2005, a contract was signed between the company and the Division of State Asset under the Provincial Finance Office recognizing concession rights of the company in two districts of Luang Prabang (Nambak and Pak Ou Districts).*

*** While the contract at the district level claims 40 years, contracts to be signed at the village level claims 50 years duration.*

**** A contract form for households also offers another profit sharing (for latex - 10 percent for company and 85 percent for farmers – and for timber 10 percent for company and 90 percent for company) scheme if the farmers do not need to purchase seedlings from the company.*

Appendix 2: Profiles of farmers planting rubber in two districts

This section is meant to give a short description of households that are planting rubber. It is meant to give a picture of under what circumstances farmers decide to plant rubber and how planting is undertaken.

Namo district

Mr. Chong Wa from **Pangthong village** is living with 11 other family members. He has three full household labour units. His family has total of six plots including 0.6 ha of paddy field, two swidden plots totalling approximately two ha and three rubber plots. He began to plant rubber in 2004 with a 10 year credit from DAFEO. He planted total of 1,800 seedlings. Chinese expert came to help him plant rubber. During the first year he planted maize, Job's tear and sesame. He expanded rubber field in 2005 by planting 700 seedlings with LSUAFRP on his second plot. This time he intercropped soybean and pineapple. He also received technical supports from the project staff.

Last year in 2006, Mr. Chong Wa further planted 500 trees by himself. He planted upland rice in this field. The main reason why he started to plant rubber is because he saw his relative in Luang Namtha plant rubber and earned a high income from it.

In addition to 3,000 trees, Mr. Chong Wa also grows 20,000 seedlings. However, for all of his rubber he is not sure of the varieties that are being planted. He learnt how to plant seedlings and trees from his relative in Luang Namtha province.

His family must weed rubber field three to four times a year. Mr. Chong Wa explained that his biggest problems is the low survival rate of the seedlings. Termites seem to be damaging the roots. He has replanted trees that were damaged. He has no information and idea about the future market of rubber.

Mr. Lao Nyeng from **Pangdou village** is 50 years old. He is living with nine other family members. There are two full labour units in the family. His family had moved away from Phousoung village. His family has three agricultural plots including two swidden fields totalling two ha. He plants upland rice, maize, sesame, and Job's tear on this land. He is planting rubber on the third plot since 2005. He has planted total of 150 trees with his own capital. On this plot, he initially intercropped galangal and fodder (to collect and sell seeds) supplied by LSUAFRP. He also has a nursery with 2,000 seedlings that he plans to graft and sell. He learnt how to plant rubber from his relative in Luang Namtha province. He wants to plant rubber because he saw his relatives in Luang Namtha were doing well. He also wants to plant it for future income for his family. He thinks that labour input for rubber is less than other crops.

He has planted rubber trees spacing 2.5 x 6 m. His family has to weed three times a year. He faced problem with cold climate as some of his rubber seedlings died due to frost. Another problem is the termite that damages the root. While pesticides were applied for the termites, he is not sure of what to do for the cold climate. Finally, he has hard time distinguishing between grafted bud and the bud of the root stock.

Mr. Thongpanh is 35 years old and lives in **Namo Tai village**. He is living with four other family members and there are three full labourers in his family. His family moved from Luang Prabang when he was 13 years old. He has six plots that can be divided into swidden (3 ha), paddy field (0.6 ha) and rubber field (1 ha). In 2006, he began to plant 480 rubber seedlings with Jin Yiu Pa Company from China because he does not have his own capital to buy seedling and other equipment necessary to plant rubber. Under the arrangement he will receive 60 percent of profit from sales of latex, while the company will receive 40 percent.

He feels that his family has enough labour to plant rubber. He planted rubber in the old swidden field. His rubber field is sandy and has a slope of 20-25 degree. He learnt about rubber from farmers in Luang Namtha.

He is not satisfied with the agreement with the company because he thinks that his profit share is low. He is also not sure about the contract because he is not sure what is written in it and what has been agreed between the government and the company. He would like to plant rubber on his own in the future. He has already planted rubber seeds, but he still needs to learn how to graft buds.

Phonexay district

Mr. Chacheu Wa is 52 years old and is living with nine other family members in **Pungpao village**. There are two full labour units in his family. His family moved from Phatoup village. His family has 4 ha of swidden, 0.3 ha of garden (suan) and 0.6 ha of rubber field where he plants 310 trees. He purchased seedlings from Luang Namtha for 5,000 kip per seedling in 2005. There were 30 trees that were damaged. He has not yet replanted them because he does not have enough money to purchase seedling. He is however, planting 1,000 seedlings on his own. He purchased seeds in Luang Prabang. He still needs to learn how to graft budding material to his rubber tree. He became interested in planting rubber because his relatives in Oudomxay have begun to plant. They also told him that sales of rubber made one economically self-sufficient and that they no longer had to depend on slash-and-burn cultivation which incurs lots of labour (particularly for weeding). He is not very skilled when it comes to planting rubber and acknowledges that he lacks a lot of understanding about rubber. He hopes he will slowly learn how to manage rubber from his fellow villagers that have also begun to plant.

Appendix 3: Intercropping and diversification of rubber plantation

Smallholder rubber in Viengphouka district, Luang Namtha Province. Galangal is intercropped in this field. Photo: Y. Fujita

Smallholder rubber and tea plantation in Meng La County, Xishuangbanna prefecture. Photo: Y. Fujita

Smallholder rubber in Had Nyao village in Luang Namtha Province. Here the villagers are experimenting with honey bee raising in the rubber plantation. Photo: Y. Fujita

Smallholder rubber with upland rice. Photo: S. Vongkhamhor

Endnotes

[1] The International Rubber Studies Group based in London provides quarterly statistics on rubber production and consumption. http://www.rubberstudy.com/statistics-quarstat.aspx

[2] China and India's economic growth indicate increasing demand for consumption of rubber products (e.g. car tires, rubber gloves, footwear, condoms, etc.) in these countries. In 2005 the two countries consumed 20% of the global rubber production or 1.8 million tonnes. See also Pothong and Pardomuan (2002) and Aravidan (2002)

[3] Price of natural rubber is linked with the fluctuation of oil price, as petrol is used to produce synthetic rubber. It is also influenced by other factors including exchange rates, inflation and seasonal changes.

[4] Temperature below 5^0 Celsius can damage rubber trees, particularly by causing bark to fracture. This can affect the latex production and in some cases causes the trees to die. Chapman claims that even after many years of experimenting RRIM 600 in relatively warmer areas of Xishuangbanna, the production was a third of that in Malaysia (p38).

[5] According to DAFEO, there are some farmers in this category that received initial support from the local government in a form of seedlings.

[6] Agreement here refers to oral agreement without written contract. None of the farmers interviewed that were planting rubber with the company had received a written contract. No contract was also signed at the village level where farmers were planting rubber with the company.

[7] If there is any form of production failure due to external factors, smallholders are not obliged to repay any of the input costs.

[8] A meeting was held on 10 October 2005 in Luang Namtha where representatives from three northern provinces (Bokeo, Luang Namtha and Oudomxay) gathered to discuss the foreign investment in rubber. Representatives from the three provinces agreed that providing land concessions to investors to manage rubber plantation will not resolve rural poverty, as farmers lose access to agricultural land and they are merely hired by investors as labourers. On the other hand, representatives of three provinces agreed that foreign investors should promote smallholder rubber plantations with a general profit sharing arrangement of 70% for farmers and 30% for companies. They also agreed to support foreign investors that are willing to provide inputs on credit, and purchase latex from farmers.

[9] As can be seen from Table 1 and Table 2, there are contradictions in the existing rubber data. According to the overall data, 784 ha of rubber was planted in Beng district in 2005-2006, but looking at data regarding investment by specific companies, 1,410 (750 plus 660) ha were planted by two different companies in the same district in 2005-2006.

[10] Kolao Company will begin contract farming in Oudomxay starting in 2007

[11] There are 10 districts in Luang Prabang.

[12] One of the Lao companies -Tongly's company- is a subsidiary of Sino-Lao Joint Venture Company operated by the former governor of Luang Namtha province. Kouangsy's company is the second Lao company run by Ms. Kouangsy, which seems to focus more on tea production (interview with the Provincial Planning and Investment Office, 2006).

[13] Even in Indonesia where high percentage of smallholder rubber production was based on extensive jungle rubber system, which was efficiently managed by the smallholders (Dove 1983), Gouyon et al. (1993) claims that the size of smallholder rubber is declining due to increased population pressure (p196).

[14] This arrangement is sometimes referred to as "2+3 (song beuak sām)" arrangement, where as farmers provide land and capital while investors provide inputs, technical expertise, and market.

[15] According to the contract signed by the district chief and the company in March 2006, initial approval is given for 2,500 ha during the three years (2006-2009). This includes 2,469 ha for contract farming and 31 ha for concession (10 ha of demonstration plot, 20 ha for nursery, 1 ha for office and factory).

[16] Some Hmong refugees from Laos that lived in China worked on state rubber farms in Xishuangbanna during the 1980s before being repatriated to Laos. There were also a groups of Lao people that were to sent to work in the state rubber farms in China to due the lack of labour in Yunnan Province (interviews from Sing and Nambak District).

[17] This definition is provided by the Agroforestry System, a scientific journal initiated by the World Agroforestry Centre (ICRAF) in their editorial of 1982.

[18] Credits were given to some smallholders in Namo district in the form of seedlings. Farmers are supposed to repay the cost of the seedlings to the district after some time. There is no systematic credit support to smallholders wanting to plant rubber.

[19] According to DAFEO-staff, approximately 100 tons of dried latex from Had Nyao village was stopped at more remote Lao-Chinese border areas during 2006.

[20] Promulgated on 22 November 2004.

[21] According to Article 19, foreign investors must submit sets of documents to the Committee including copy of passport, CV, economic and technical report (bot viphak sethakit-technik) or business plan, and other information of the company.

[22] In Luang Prabang the institutions taking part in the assessment of investment proposals are PAFO, Provincial Environment Agency, Commerce Office and Cultural and Information Office. This group of institutions was referred to as the Foreign Investment Consultation Committee. In Oudomxay the committee is led by Provincial Governor's Office, and includes other members from the Provincial Planning and Investment Office, PAFO, Provincial Commerce Office, Provincial Finance Office, Provincial Industrial Office, Provincial Justice Office, Provincial Environment Office and DAFEO.

[23] Implementing Decree of the Law on the Promotion of Foreign Investment (Article 53)

[24] From Part III, Article 12 of the contract.

[25] From Part II, Article 3.2 of the contract.

[26] From Part IV, Article 8.1 of the contract.

[27] A combination of factors has contributed in relocation of upland population. While long years of civil war had been one of the major cause of displacement up to the late 1980s, government policy on shifting cultivation stabilisation and delineation of village boundary (Land and Forest Allocation) had a significant impact on relocating upland communities and restricting their land use practices (SPC 2000, Vandergeest 2003). Cohen (2000) also points out the impact of government policy to eradicate opium production on upland population, while Lyttleton et al. (2004) note that relocation is not only forced but also voluntary as new economic opportunities open for farmers in the lowland areas.

About the Upland Research and Capacity Development Programme

The URDP is a partnership between the National Agriculture and Forestry Research Institute (NAFRI) of Lao PDR and Sida. The programme is the second phase of Sida support to NAFRI, formerly known as the Lao Swedish Upland Agriculture and Forestry Research Programme (LSUAFRP, 2002 -2007).

The current phase (2007 – 2012) focuses on addressing issues related to poverty alleviation from different angles (institutional, social, technical, environmental). More explicit attention will also be placed on supporting NAFRI's new mandate to carry out policy related research.

The programme objectives are to:

- ✔ Develop productive and sustainable upland farming systems and land management recommendations that have the potential to benefit a wide range of households with different characteristics
- ✔ Generate socio-economic knowledge that is relevant for different levels of policy making.
- ✔ Strengthen the capacity of NAFRI through an integrated capacity development effort focusing on human resources, organizational and institutional development.
- ✔ Improve information management systems and the communication of research results to different stakeholders.

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