

Detailed Poverty and Social Impact Assessment

June 2018

Lao PDR: Climate-Friendly Agribusiness Value
Chains Sector Project

I. EXECUTIVE SUMMARY

1. The proposed Climate-Friendly Agribusiness Value Chains Sector Project will invest in pro-poor and inclusive agricultural value chains in three countries of the Greater Mekong Subregion (GMS): (i) Lao People's Democratic Republic (Lao PDR); (ii) Kingdom of Cambodia; and (iii) Republic of the Union of Myanmar. This report presents the findings of the socioeconomic, poverty and gender assessment undertaken during the preparation and design of the Climate-Friendly Agribusiness Value Chains Sector Project in Lao PDR.
2. The project preparatory technical assistance (PPTA) social development consultant team carried out participatory socioeconomic assessments in selected target areas to better understand the social, poverty and gender aspects of the target populations in subproject areas.
3. Findings showed that the subproject populations are largely homogeneous in terms of economic status. Women are key actors in the value chains for rice and vegetables. They are producers, collectors and/or intermediaries, rice millers, and own and operate their own enterprises. There is equal access of men and women to markets. Both husband and wife jointly agree when, where and to whom to sell the crop, and it is frequently the responsibility of the wife to contact the local (usually female) collector. There is joint access and control to land and capital, although women are generally responsible for managing household finances.
4. The target population needs and demands were assessed in relation to the proposed subprojects. It was found that women and men expressed the same priorities. In Feasibility Study 1 (Upgrading Vanida Rice Mill [VRM]) farmers' overriding priority was to have access to a reliable supply of water that would allow them to cultivate two crops of paddy per year. Farmers are currently very vulnerable to erratic climatic events. It was also recommended that the village farmer producer group receive further capacity building to strengthen the group. The need for access to affordable credit was also cited.
5. In Feasibility Study 2 (Vegetable Collection Point and Pack House) the vegetable producer group (VPG) will have the opportunity to move up the value chain and expand its marketing options. Local farmers' needs were also for supplementary irrigation to allow them to cultivate vegetables all year round. Again, the need for affordable short-term credit was also cited.
6. For the proposed subprojects both men and women were motivated to gain benefits and participate in the subprojects capacity building activities and improve access to markets for their farm produce. There is a good fit with beneficiaries absorptive capacity for the interventions.
7. In Feasibility Study 3 (Biofertilizer factory) the need to implement a farmer outreach programme to explain the advantages and cost-saving benefit of biofertilizer use especially for poor farmers, has been recognized. The establishment of a management committee to discuss working conditions at the factory, and the monitoring of biofertilizer use in the field was also recommended by staff.
8. For ensuring that there is a poverty focus to project interventions, it is recommended that identified poor households in subproject areas should be targeted for unskilled job opportunities related to civil works. Gender disparities in employment remain extensive in Lao PDR, primarily because of traditional attitudes about appropriate occupations for women and men. This is particularly true for the construction sector, where it is believed that women either cannot or do not wish to engage in manual labor. Women are already engaged in manual labor in the agriculture sector however, and there are many unskilled construction jobs that women could do in order to earn cash wages.

II. INTRODUCTION

9. This report presents the findings of the poverty and social assessment undertaken during the preparation and design of the Climate-Friendly Agribusiness Value Chains Sector Project in Lao PDR.

10. The proposed Climate-friendly Agribusiness Value Chains Sector Project will invest in pro-poor and inclusive agricultural value chains in three countries of the Greater Mekong Subregion (GMS): (i) Lao People's Democratic Republic (Lao PDR); (ii) Kingdom of Cambodia; and (iii) Republic of the Union of Myanmar.

11. The approach to project preparation included identifying a small number of representative subprojects or feasibility studies based on established criteria (e.g., contribution to food security, energy security, water security, environmental sustainability, positive social impacts) and through stakeholder consultations. Lao PDR has experience in sector modality in terms of identifying and realizing sub-projects during project implementation, and has (i) an agricultural sector development plan; (ii) reasonable institutional capacity to implement the plan; and (iii) suitable policies applicable to the sector. Furthermore, capacity building will be integral to the investment.

12. Three subprojects have been identified and feasibility studies were conducted under the Lao PDR PPTA. The subprojects or feasibility studies are:

- (i) Khammouane Development Rice Millers Group: Upgrading of the VRM Feasibility Study, Laophokham Village, Thakhek district, Khammouane Province;
- (ii) Vegetable Producers Group for Export (Khum Pralit Peudpak Pheua Kan Song – Ok): Vegetable Collection Point and Pack House Feasibility Study, Thongset Village, Pakxong District, Champasak Province; and
- (iii) Upgrading the Dongxiengdee State Enterprise Biofertilizer Factory Representative Subproject Feasibility Study, Dongxiengdy Village, Naxaythong District, Vientiane Capital.

13. The social development consultant team carried out participatory socioeconomic assessments with populations in these three areas, and the findings are presented in this report. The social, poverty and gender aspects of the target populations were analyzed to better understand the social context and conditions of the beneficiaries in the subproject areas. In addition, the proposed subprojects were discussed with beneficiaries in order to elicit their views, opinions and recommendations.

14. The detailed gender analysis is presented separately together with a Gender Action Plan for the project.

A. Method used for preparing the poverty and social assessment

15. Because of limited time allocated (1 person-month (p-m) for international specialist and 1.5 p-m for national specialist), information concerning the beneficiary populations in the subproject areas was collected from

- (i) secondary data including recent social survey reports and publications;
- (ii) focus groups (both mixed gender and with women separately) with target beneficiaries;
- (iii) key informant interviews with local village leaders and Lao Women's Union representatives;
- (iv) interviews both face-to-face and by telephone with key informants;

- (v) meetings with key Ministry of Agriculture and Forestry (MAF) sub-CAW staff;
- (vi) meeting with ADB Social Sector Development and Gender Specialist; and
- (vii) meeting with International nongovernment organization, Oxfam in Vientiane Capital.

B. Background

1. Lao PDR Population and Housing Census Results 2015

16. In 2015 the total population of Lao PDR was estimated to be 6,492,228; up from 5,621,982 in 2005.¹ There were 3,237,458 females and 3,254,770 males. Population growth is 1.45% per year (2005-2015) which is down from 2.08% for the period 1995-2005. Half of the country's population is under 25 years of age.

17. The average number of children per woman has declined to 3.2 (2015) from 4.5 in 2005.

18. Total population comprises 2,138 million (32.9% of the total) urban dwellers, and 4.355 million (67.1% of the total) rural area dwellers, of which 0.513 million live in rural locations without roads.

19. In the 10-year period from 2005 to 2015 the rural population has declined from 72.8% to 67.1%, due in part, to outward migration from rural areas, and urbanization. One in three people now live in urban areas but the rural population still represents a large proportion of Lao population. Vientiane Capital has the highest population density in the country, with 209 people per square km, nearly eight times higher than the national figure (27 people per square km).

20. Approximately 7% of the population aged 10 and above was considered migrant population. The literacy rate of the Lao population aged 15 and over increased from 73% in 2005 to 85% in 2015, but a large gender gap remains.

21. Nearly two-thirds of the population were reported to be in the labor force. Sixty-nine % of males and 66% of females were considered to be employed.

22. Household size has declined slightly from 5.8 in 2005 to 5.3 in 2015. Nearly 96% of households owned the house they lived in. In 2015 86% of households owned a mobile phone; 80% owned a motorcycle and 75% owned agriculture land. Eighty-four % of households had access to electricity; 61% had access to safe water and 73% to improved sanitation facilities.

2. Analysis of poverty issues in Lao PDR

23. Lao PDR remains one of the poorer and least developed countries in the world, ranked 141st out of 181 countries in terms of the human development index estimated by the UN Human Development Report 2014.²

¹ Government of Lao PDR, Lao Statistics Bureau. 2015. *4th Population and Housing Census*. Vientiane

² United Nations Development Programme (UNDP). 2014. UN Human Development Report – 2014. <http://hdr.undp.org/en/composite/HDI>

3. Poverty reduction trends

24. Lao PDR has achieved the Millennium Development Goal target of halving its national poverty rate over the past decade.³ Household welfare also improved in terms of ownership of assets, condition of housing and access to services. Approximately 56% of poor households now own mobile phones; 50% own a television and 63% own a motor bike. The durability of housing construction materials also showed significant improvement. Over the same period, access to electricity among poor households increased by 18.5% to 58.7%.⁴

25. The poor on average have become less poor over recent years. The country has seen a steady reduction in the poverty gap and poverty severity over time.⁵ The poverty gap has come down from 11.2% in 1992-1993 to 5.5% of the national poverty line in 2012-2013, while the squared poverty gap (poverty severity index) has declined from 3.9 to 1.9 over the same period (footnote 4).

26. However, poverty reduction and consumption growth lag behind the country's gross domestic product (GDP) growth. International comparisons⁶ show that compared to some neighboring countries, Lao PDR's consumption has lagged behind its high economic growth. From 2007-2008 to 2012-2013, Lao PDR's annualized growth in real per capita consumption was 2%, which lagged behind the rate of per capita GDP growth by 4% (footnote 4).

27. The growth in consumption has benefited the richer quintiles of the population more than the poorer segments. Consumption among the bottom 40% of the population grew at 1.3% compared to 2.4% among the richest 20% (footnote 4). Over the 20-year period from 1992-1993 to 2012-2013, the difference in the share of national consumption between the poorest and richest quintiles has widened by approximately 6%. In 2012-2013, consumption of the richest quintile was 6.4 times that of the poorest. In 1992-1993 the difference was 4.7 times (footnote 4).

28. The rural-urban gap remains significant at 18.6%. The poverty rate in rural areas is 2.9 times that of the urban areas. Even so, over the past 2 decades, the rural poverty headcount ratio fell from 51.8 to 28.6. From 1992-1993 to 2007-2008, the decline in rural poverty has been slightly faster than the decline in urban poverty. However, in the 5-year period from 2007-2008 to 2012-2013, rural poverty rates declined much more slowly (by 9.8%), while urban poverty declined by 42.5%. This reversal in trend has been correlated with increased agricultural produce prices (footnote 4).

4. Geographic location

29. The progress in poverty reduction also varies by altitude and location. One-third of the population in upland areas is still below the poverty line, while in lowland areas, approximately one-fifth of the population is poor (18.8%). In earlier years (2002-2003 to 2007-2008), poverty fell relatively quickly in the lowland areas and declined much more slowly in highland areas. In contrast, from 2007-2008 to 2012-2013, the rate of poverty reduction slowed in the lowland areas,

³ UNDP. 2015. *UN Country Analysis Report: Lao PDR*. Vientiane.

⁴ Pimhidzai, O., Fenton, N., Phonesaly Souksavath and Vilaysouk Sisoulath, 2014. *Poverty Profile in Lao PDR: Poverty Report for the Lao Consumption and Expenditure Survey, 2012-2013 (LECS)*. Vientiane; and Ministry of Planning and Investment, Lao Statistics Bureau and World Bank.

⁵ The poverty gap ratio is the mean shortfall of the total population from the poverty line (counting the non-poor as having zero shortfall), expressed as a %age of the poverty line. It measures the 'poverty deficit' of the entire population, where the poverty deficit is the per capita amount of resources needed to bring all poor people above the poverty line through perfectly targeted cash transfers. The poverty severity index applies an increasing weight to greater distances below the poverty line and is therefore sensitive to the severity of poverty.

⁶ Comparison across countries was made using the international standard of PPP of \$ 1.25 per day.

while that in upland areas was more than twice as fast. Poverty reduction in midland areas has proceeded relatively steadily: with a poverty rate of 22% in 2012-2013, the midland areas appear to be catching up with the lowland areas (footnote 4).

5. Ethnicity and education

30. Ethnicity and education levels also play determinant roles in poverty rates. The Lao-Tai, with the highest levels of education, have the lowest poverty rates, continuing the trend of the previous two decades. In contrast to previous trends, the poverty rate among the Chine-Tibetan group has declined dramatically (from 42.2% in 2007-2008 to 16.4% in 2012-2013), and is catching up with the Lao-Tai (15.4%). Poverty remains high among the Mon-Khmer and Hmong-Lu Mien, at 42.3% and 39.8% respectively. The Mon-Khmer group has the highest poverty rate, but poverty is declining faster in this group than among the Hmong-Lu Mien. One analysis attributes the different patterns to the lower levels of education among the non Lao-Tai groups (footnote 4).

31. The poverty headcount rate is much higher among households where the household head has no education (41.7%) or only some primary education (32.4%). Non Lao-Tai groups traditionally live in upland or more remote areas difficult to access, and this factor is important, since location and access affect both educational attainment and livelihoods.

6. Employment and wages

32. The employment of the household head and the prices of agricultural produce appear to be important determinants of poverty. From 2007-2008 to 2012-2013, poverty declined more slowly among agricultural households than among wage workers. One report correlates this with the decline in prices of agricultural produce over this period, which reduced large farmers' welfare, but raised the welfare of wage workers, who are net food buyers (footnote 13).

33. Conversely, in the earlier period (2002-2003 to 2007-2008), agricultural produce prices rose significantly, favouring the large farmers but hurting the paid wage workers. The report attributes the changing urban-rural consumption trends (previously mentioned) to employment and price trends.

34. In 2012-2013, poverty was significantly lower among female-headed than male-headed households. Those living in male-headed households had a poverty rate of 23.7%, while those living in female-headed households had a poverty rate of 16.8% (footnote 13). The reasons behind this pattern may require further study.

7. Poverty rates in provinces and districts

35. The districts targeted by the government's National Growth and Poverty Eradication Strategy showed significant progress but still remain poor. One-third of the population in both first priority and second priority districts remain below the poverty line. From 2007-2008 to 2012-2013, the first priority districts saw the poverty headcount rate drop nearly five times as fast as second priority districts. First priority districts have now caught up with second priority districts in terms of poverty reduction (footnote 4).

36. Three provinces saw poverty rise from 2007-2008 to 2012-2013. These were Bokeo, Champasack, and Saravane. The poverty headcount rate doubled in Champasack, and in the other two provinces it increased by over one-third over the same period. The rise of poverty in Champasack and Saravane is a reversal from the previous period (2002-2003 to 2007-2008), when poverty declined in these two provinces.

37. In contrast, Bokeo has seen a continuing rise in poverty from 21.1% in 2002-2003 to 44.4% in 2012-2013. Among the remaining 14 provinces, poverty declined at varying rates. Vientiane Capital, Attapeu and Phongsaly made the fastest progress in terms of percentage reduction from 2007-2008 to 2012-2013 (footnote 4).

38. The depth of poverty is greatest in Xiengkhuang, Huaphanh, Bokeo, Sekong and Saravane.⁷ Of these five provinces, however, both the depth and severity of poverty increased from 2007-2008 to 2012-2013 only in Bokeo and Saravane, while the other three show progress in reducing poverty depth and severity. Champasack also shows increased depth and severity of poverty over the same five years, but to a lesser extent. The depth of poverty is least in Attapeu and Vientiane Capital.

39. Among all provinces, Phongsaly made the fastest progress in reducing both the depth and severity of poverty.

40. The provinces accounting for the largest share of the poor are Savannakhet, Saravane, Champasack, Huaphanh and Luangprabang (footnote 4). Together, these provinces make up over half the poor population in Lao PDR. Savannakhet, Champasack and Luangprabang all have relatively large populations, so even with a moderate poverty headcount rate, these provinces account for substantial numbers of the poor. On the other hand, Huaphanh and Saravane, with only 4.6% and 5.9% of the country's population, account for a disproportionate share of the poor because of high poverty headcount ratios.

8. Inequality

41. Inequality in the country has increased, notably within urban areas. The Gini coefficient increased slightly from 35.0 to 36.2 in the period 2007-2008 to 2012-2013. An analysis by rural and urban areas showed that inequality had decreased in rural areas over this five-year period (due to a slowdown of growth in incomes of the rural non-poor population) (footnote 4). However, this was more than offset by rising inequality in urban areas. Inequality has therefore increased within urban areas, and between rural and urban areas.

42. Although the poor of Lao PDR have become better off in real terms over the past two decades, the rich have benefited more, in both proportionate and absolute terms.⁸ A report shows that the increase in inequality slowed down the pace of poverty reduction. If inequality had not increased, a greater degree of poverty reduction would have been achieved nationally (footnote 8).

43. A strong propensity to save has led to a large pool of household savings. In 2014, 77% of Lao adults declared having savings, using a large variety of conduits where informal channels predominate (village funds, livestock, gold) along with a fair banking penetration (21%). Only 20% of adults currently borrow, with village funds and banks as predominant sources.⁹ According to a recent United Nations Capital Development Fund study, Lao people are generally reluctant to take credit. It is less about access than a combination of attitudes, lack of business skills and inadequate credit products.

⁷ The poverty gap in Xiengkhuang, Huaphanh, Bokeo, Sekong and Saravane is 8.3, 11.3, 11.6, and 11.6 respectively and 14.7 % of the poverty line.

⁸ Warr, P., Rasphone, S. and Menon, J., 2015. *Two Decades of Rising Inequality and Declining Poverty in Laos (Preliminary Draft)*. Vientiane.

⁹ United Nations Capital Development Fund (UNCDF), Bank of the Lao PDR, Lao Statistical Bureau and FinMarkTrust, 2015. *FinScope Laos 2014*, a nationally representative survey of the use of formal and informal financial services by the adult population of Lao PDR. New York.

9. Millennium Development Goal and NSEDP

44. Summing up, the international Millennium Development Goals target of halving the poverty rate in the country has been achieved but unfortunately inequalities in the country have increased. Three provinces saw an increase in poverty as well as an increase in the depth and severity of poverty. Various analyses identify education, agricultural produce prices, livelihoods and geographic location as important factors in determining poverty patterns and trends in the country. Underlying these are factors that are more difficult to quantify, such as ethnicity, traditions, and attitudes towards gender and education.

45. Poverty reduction is a priority on the national agenda. The overall goal in the Eighth NSEDP includes reduced poverty, graduation from LDC status, and sustained and inclusive growth as desired outcomes. The NSEDP also aims to achieve balanced regional and local development, and improved living standards. Data availability and robustness have improved in recent years, but the data is not always used effectively in planning and targeting. Moreover, the limitations on accessibility to raw data hamper the depth of analysis.

III. IDENTIFIED FEASIBILITY STUDIES OR SUBPROJECTS AND DESCRIPTION OF PROJECT'S TARGET PROVINCES

46. The project area will focus on six provinces, namely, Champasack, Khammouane, Savannakhet, Saravane, Sekong and Vientiane (including the Vientiane Capital Administration Authority) provinces.

47. The rice sub sector will be supported, primarily, in Khammouane, Saravane, and Savannakhet provinces, and the vegetable sub sector, primarily, in Champasack and Vientiane provinces.

48. The main macroeconomic indicators in 2014-2015 for the main target provinces are shown in the following table:

Table 1 - Macroeconomic Information in 2014-2015 in Main Target Provinces

Items	Capital City	Vientiane	Khammouane	Savannakhet	Champasack	Saravan
Average GDP in Table 1:	12.80%	8.00%	13.00%	12.00%	11.60%	11.00%
Total Income (billion kip)	35,400.00	43,075.80	5,896.73	14,364.63	12,547.00	3,780.42
Per Capita Income (\$/person)	4,390.00	1,550.00	1,845.00	1,785.00	2,005.00	1,170.00
GDP in Agriculture Sector	16.00%	39.07%	24.00%	38.12%	27.10%	43.44%
Income in the Sector (bill. kip)	5,664.00	2,078.00	1,087.48	5,475.80	5,069.00	1,642.21
GDP in Industrial Sector	47.00%	30.22%	36.70%	34.70%	34.00%	23.21%
GDP in Service Sector	37.00%	30.71%	32.09%	27.18%	39.00%	33.16%
Population (person)	995,529	419,000	404,654	981,392	736,326	402,165

GDP = gross domestic product.

Source: Ministry of Planning and Investment. Provincial Socio-Economic Development Plan in 2014-2015.

49. The project's activities will be undertaken in different agro-ecological zones of the country (i) Mekong corridor; (ii) Central-Southern highlands; (iii) Vientiane plain; and (iv) Bolovan plateau.

- (i) **The Mekong Corridor:** The Mekong Corridor includes the banks and floodplains of the Mekong River and the lower alluvial valleys of its tributaries. Altitudes range from 100-200 meters, annual rainfall is between 1,500-2,000 millimeters, and the agricultural growth period ranges from 180-200 days. The landscape consists mainly of plain to modestly sloping areas.
- (ii) **Central-Southern highlands:** This zone include parts of Attapeu, Khammouane, Savannakhet, Saravane, and Sekong provinces and extends parallel to the Mekong covering the upper valleys of its tributaries and upland areas. Altitude range varies from 200-500 meters. Rainfall ranges from 2,000-3,000 mm and the length of growth period is between 210-240 days. The zone is generally characterized by poor acid soils with little potential for productive agriculture. In addition, the high risk of unexploded ordnance prevents the cultivation of a large portion of the available land.
- (iii) **Vientiane plain:** The Vientiane Plain extends over parts of Bolikhamxay, Khammouane, and Vientiane provinces and covers the higher plains and lower slopes in the areas. Altitude ranges from 500-1,000 meters and annual rainfall from 2,500-3,000 millimeters. The growth period is 240-270 days. The landform is dominated by rolling topography and middle mountain areas. Natural forests still exist but have been affected by shifting cultivation. Upland rice cultivation is one of the main agricultural activities but animal husbandry is also of some importance.
- (iv) **Bolovan plateau:** This zone includes parts of Attapeu, Saravane, and Sekong provinces in the south of the country. Altitude varies from 500-1,500 meters and rainfall ranges from 2,500-3,000 millimeters. Today's natural vegetation mainly consists of savannah, forest and grassland formations. Land is primarily used for cultivation of tree crops (coffee, tea, and cardamom) but some shifting cultivation for upland rice production occurs as well. Livestock production is of major importance in this area.

A. Socioeconomic Description of the Provinces

50. Vientiane province is 15,610 square kilometres. It is located in the central part of Lao PDR bordered to the north with Luang Prabang province, to the east with Xiengkhouang province, to the west across the Mekong River with Sayaboury province, to the south east with Borikhamxay province and the south with Vientiane Capital. The province is the sixth province with larger area of paddy rice plantation after Savannakhet, Champasack, Saravane, Khamouane and Vientiane Capital. Other agricultural plantation includes maize, mango, orange, mango and coconuts. The average land holding is 2.5 ha.

51. Khammouane province is located in the center of the country and Thakhek is the provincial capital. Khammouane province comprises 10 districts: Hin boune, Khoun Kham Mahaxay, Nong Bok, Nhommalath, Na khai, Sepang Phay, Thakhek, and Xayphouthong. The province covers an area of 16,315 square kilometres and is mostly of forested mountainous terrain. The province is bordered by Bolikhamsai province to the north and northwest, Viet Nam to the east, Savannakhet province to the south, and Thailand to the west.

52. Savannakhet province has an area of 21,774 square kilometers and is located in the central part of the country bordering to the north with Khammouane, to the west across the Mekong River with Thailand, to the east with Viet Nam and to the south with Saravane.

Savannakhet's economy is based on cultivating rice and secondary cropping such as mango, coconut, tamarind, maize, and sugar cane. The average land holding is 3.1 ha.

53. Saravane province has an area of 10,691 square kilometers and is located in the southern part of the country bordering to the north with Savannakhet, to the west across the Mekong River with Thailand, to the east with Viet Nam, to the south-east with Sekong and the south-west with Champasack. The main economic activity of the province is rice cultivation and secondary crops cultivation such as mango, coconut, maize, tamarind and coffee. The average land holding is 2.6 ha.

54. Champasack province has the area of 15,415 square kilometers and is located in the southern part of the country bordering to the north with Saravane, to the east with Thailand, to the north east with Sekong, to the east with Attapeu and to the south with Cambodia. Rice is the main agricultural produce followed by coffee, cabbage, mango and coconut. The average land holding is 2.1 ha.

55. Sekong province is located in the south east of the country. It is the second smallest province in Lao PDR and also one of its poorest, (second only to Houphanh province) covering an area of 7,665 square kilometres. It is bordered by Viet Nam to the east, Attapeu province to the south, Saravane province to the north, and Champasack province to the west. Sekong also has the smallest population (113,048 as of 2015) and the lowest population density of any province. It was created in 1984 by splitting Saravane province and has 14 ethnic groups. Infrastructure is poorly developed, and the literacy rate is low. Sekong has one of the most important coffee producing areas of Lao PDR along with Saravane province and Champasack province. It is Lao PDR's main honey-producing area.

B. Identification of subprojects

56. In consultation with MAF and participating project provinces, three representative subproject feasibility studies were undertaken with positive results, indicating substantial increases in farm and agribusiness enterprise incomes from increased crop production and quality, reduced losses, enhanced processing capability and increased employment. They are as follows:

Table 2: Subproject Selection

Feasibility Study / Subproject	Province	District	Village
Khammouane Development Rice Millers Group: Upgrading of the Vanida Rice Mill	Khammouane	Thakhek	Laophokham village
Vegetable Producers Group for Export (Khum Pralit Peudpak Pheua Kan Song – Ok): Vegetable Collection Point and Pack House	Champasack	Pakxong	Thongset/Houayset village
Upgrading the Dongxiengdee State Enterprise Biofertilizer Factory	Vientiane Capital	Naxaythong	Dongxiengdy village

C. Feasibility Study 1 - Khammouane Development Rice Millers Group: Upgrading of the Vanida Rice Mill

57. Thakhek is an important centre for trade. Along with Bolikhamsai and Savannakhet provinces Khammouane is one of the main tobacco producing areas of Lao PDR. There are several major operating mining companies in the province, including Mining Development Economy Corporation mining gypsum in Thakhek District, LAVICO Co. Ltd, which is a Lao-Viet Nam joint venture mining gypsum in Sepang Phay District, V.S.K. Co. Ltd mining limestone in Thakhek District, and Lao-North Korea Tin Mines mining tin in Hin Boune District.

58. The total province population is 392,052 (2015 Census data) and the population density is 24 per square kilometer. The total population of Thakhek District, in which the VRM is located is 88,299, of which 44,000 are females (2015 data).

59. There are 96 villages in Thakhek district which are divided into five village clusters as follows:

- (i) Cluster 1: 28 Villages (urban centres) business sector, tourism and services;
- (ii) Cluster 2: 18 Villages (Namoung – Ba nge) rice production, crop production;
- (iii) Cluster 3: 14 Villages - all for tourism, rice production and livestock;
- (iv) Cluster 4: 18 Villages - fruit trees, rubber trees, rice production; and
- (v) Cluster 5: 18 villages near to the VRM, with a land area of 22,772 ha including rice paddy fields with 13,500 ha for wet season rice production and 142 ha for dry season production.

60. **Rice production in Khammouane province.** The total land area of the province available for rice cultivation is 82,220 ha, from which an average rice yield of 3.80 tons per ha is being achieved. In 2015, wet season rice production was 312,200 tons from 69,576 ha. In the dry season, the plan for 2014-2015 was to cultivate 12,470 ha, but the actual cultivated area was only 8,223 ha, with a rice yield of 5.53 tons per ha and a total rice production of 45,500 tons. Regarding upland rice, the provincial plan was to produce 45,500 tons of rice, however, only 250 ha was used for rice cultivation, yielding 2.00 tons per ha, and a total rice production of 500 tons.

61. Total rice production in the province in 2016 was 47,281 tons. In the ten districts of the province, the plan was to cultivate 83,270 ha of lowland rice; actual rice cultivation in 2016 was 80,569 ha. The yield was 4.5 tons per ha, and a total of 320,560 tons of rice was produced. The dry season plan was to cultivate 10,000 ha, but only 9,040 ha was cultivated and the yield was 5.23 tons per ha.¹⁰

62. **Feasibility Study 1 - project beneficiaries.**¹¹ VRM currently buys paddy from approximately 1,349 households located in Khammouane province and Savannakhet province, as illustrated in the table below:

Table 3: Districts, Villages and Farm Households Supplying Paddy to Vanida Rice Mill

Province	District	No. of villages	No. Households
Khammouane	Thakhek	8	278
	Nong Bok	3	232
	XeBang Phay	5	104
	Buarapha	10	250
Total	4	26	864

¹⁰ Source of data: PAFO, Khammouane.

¹¹ Source of information: Director, VRM, Village Head and Deputy Head of Dong Tai village, November 2016.

Savannakhet	Xayboury	5	385
Grand Total	5	31	1,249

63. The range of farm land holdings is from 0.4 ha (small) to 1.5 ha (medium) to 2.0 ha (considered large). Farmers are organized in farmers' producer groups with approximately 100 farmer members in each group.

64. **Dong Tai village, Nong Bok district, Khammouane province.** Dong Tai village is one of the villages in Thakhek District which sells paddy to Vanida Rice Mill. The main socioeconomic characteristics are as follows:

- (vi) Ethnicity: Lao Lum
- (vii) Total village population: 1,833
- (viii) Total number of females: 981
- (ix) Total number of households: 333
- (x) Number of very poor households: 2
- (xi) Number of average income households: 191
- (xii) Number of above-average income households: 40
- (xiii) Total area of available farm land: 639 ha
- (xiv) Average size of land holding: 1–2 ha per household
- (xv) Number of farmer producer groups: 1
- (xvi) Number of farm households in farmer producer group: 21
- (xvii) Number of people out-migrated from village: 28
- (xviii) Number of females out-migrated: 15
- (xix) Number of males out-migrated: 13
- (xx) Daily wage rate for transplanting rice is 70,000 LAK per day for both men and women
- (xxi) Daily wage rate for harvesting paddy is 50,000 LAK per day for both men and women.

1. Participatory Assessment

65. From mixed gender discussions and interviews with village leaders held in November 2016 an assessment of the social, poverty and gender dimensions of some of the secondary beneficiaries of the rice mill feasibility study area has been elaborated.

66. **Summary.** Dong Tai village is one of the villages in Thakhek District which sells paddy to Vanida Rice Mill, and has access to good quality inputs and technical assistance from the mill. The population is characterized by a single ethnic group, the Lao Lum. Because of the lack of water, there is only one cropping season per year. The nearby irrigation system which serves the area needs repair and the canals need to be lined to improve efficiency. A second problem cited is that farmers would like to be able to always sell their paddy to Vanida Rice Mill, however this is not always possible because reportedly there are times when the mill has insufficient financial resources for purchasing their paddy.

67. In the farm household, both husband and wife take active responsibility for selling farm produce such as paddy and livestock. Some vegetables also produced by the farm households are sold locally in the village market. Paddy is mainly sold to Vanida Rice Mill and to other local collectors. Both male and female farmers have attended rice production training and additional technical training related to high-yielding seed varieties and integrated pest management. Village leaders have received leadership training and capacity building in collecting data for the

elaboration of progress reports. Concerning property rights, women are treated equally with men and land titles are in the names of both the husband and wife.

2. Findings of participatory assessment

68. **Out migration.** 28 people have migrated out of the village (15 females and 13 males). Some women went to Chanthaburi province in Thailand to work in restaurants or as domestic help and others went to Vientiane to work in the service industry and in restaurants. The men went to work in Thailand to work as building construction workers, or in the fishing industry, or as car mechanics. Since they received only 300 Thai Baht per day which was insufficient to live on, the men in recent times have returned to the village.

69. Membership of organizations and producer groups: The following table indicates male and female membership in village authority and in people's organizations:

Table 4: Membership of Organizations and Producer Groups

Position	Total	Male	Female
1. Leadership			
Village Chief	1	X	
Deputy Village Chief	2	X	
LNFC Lao National Front for Construction	3	X	
Lao Women's Union	3		X
Youth Union	3	1	2
Security / Police	6	X	
Army	3	X	
2. Executive Committee Members			
LNFC	2	X	
Lao Women's Union	2		X
Youth Union	2	X	
Security / Police	2	X	
Army	1	X	
3. Membership of organizations			
1 Farmer Rice Producer Group	21	X	X

70. Women are active leaders of the Lao Women's Union and the Youth Union and are also active members of the village rice producer group.

71. **Poverty Levels.** Per village leaders, Dong Tai has two very poor households: (i) 191 households which are considered average or middle income level; and (ii) 40 well-off households with above average household incomes. The two very poor households lack agricultural land, and rent parcels from other farm households through a share-cropping arrangement where 10% of the crop goes to the owner of the land, and the farmer keeps 90% of the harvest.

72. **Vulnerability and Inclusion.** There is only one ethnic group in the village the Lao Lum and there is no ethnic group which suffers from exclusion from the village because of language or because of increased vulnerability. The village has a school, a health center and because the condition of the access road is good, it is possible for villagers to travel to the hospital in Thakek without difficulty.

73. **Local Production Patterns.** At the start of the growing season, the District Agriculture and Forestry Office (DAFO) extension staff comes to the village. Their mobilization costs and materials are covered by Vanida Rice Mill. This team meets the village head and determines how many farms request rice seed and how much it will cost. Subsequently the village authorities meet

with all the farmers and check with the farmers how much seed they need. Some farmers need cash advances as working capital. Some farmers need both seed and fertilizer. Approximately one month after harvest the village chief contacts Vanida Rice Mill and advances are paid back in paddy.

74. All the producer group households in Dong Tai village sell their paddy to Vanida Rice Mill and villagers reported their satisfaction with this arrangement because the purchase price offered to farmers is fair and higher than that offered by other local collectors. The close working arrangement with Vanida Rice Mill which supplies quality inputs to farmers and guarantees a fair price for paddy, has reportedly led to significant livelihoods improvements.

75. There are significant numbers of livestock in the village as follows: 280 buffalo, 640 cows, 500 pigs, 60 goats, and 2,000 poultry.

76. **Work profiles in paddy production.** Men are principally responsible for land preparation, irrigation preparation, fertilizer application, pesticide application, and hauling and transport of crops. Women are principally responsible for weeding and poultry management.¹² Both men and women are involved in buying farm inputs, nursery preparation and sowing rice seed, pulling transplants, planting or transplanting seedlings, harvesting, small animal management and selling farm produce.

77. Both husband and wife take active responsibility for selling farm produce such as paddy, vegetables (chilli, onion, cucumber, pumpkin, tobacco, and cabbage) and livestock. Vegetables produced by the farm households are sold locally in the village market. Both husband and wife jointly decide on which livestock to raise, which farm equipment to buy and which household appliances to purchase. Paddy is mainly sold to Vanida Rice Mill and to other local collectors. The Vanida mill buyer comes directly to the village to purchase paddy and is the preferred buyer because a fair price is offered to farmers. Both male and female farmers have attended rice production training and additional technical training related to high-yielding seed varieties and integrated pest management.

78. Tasks carried out by different household members in Dong Tai village are as follows:

Table 5: Dong Tai Village Tasks

Paddy production and livestock tasks	Responsible		
	Male	Female	Both
1 Land preparation	X		
2 Irrigation preparation	X		
3 Buying inputs			X
4 Seed sowing and nursery preparation			X
5 Pulling seedlings			X
6 Planting and/or transplanting			X
7 Weeding		X	
8 Fertilizer application	X		
9 Pesticide and herbicide application	X		
10 Harvesting			X
11 Hauling and/or Transport	X		
12 Small animal management			X
13 Poultry management		X	
14 Selling household produce			X

¹² Data collected by participatory assessment: Dong Tai November 2016.

79. **Main Responsibilities for Household Chores.** The responses on household work distribution between females and males were as follows:

Table 6: Responsibility for Household Chores

Household Task	Responsible		
	Male	Female	Both
1 Financial budgeting and management			X
2 Money earner			X
3 Keeper of household cash		X	
4 Purchasing household needs		X	
5 Child rearing		X	
6 Cooking		X	
7 Washing clothes and dishwashing		X	
8 Housekeeping and Cleaning,		X	
9 House repair and/or construction	X		
10 Fuel wood gathering		X	
12 Livestock raising of large animals (cows, buffalo)	X		

80. Results show that women are usually responsible for and perform: (i) purchasing household needs; (ii) child rearing; (iii) cooking; (iv) washing clothes and dishwashing; and (v) cleaning the house and gathering fuel wood. Men are responsible for and perform house repair and/or construction and looking after large animals which are considered to require physical strength.

81. **Investment and expenditure-related decisions for the household and the farm.** Investment and expenditure decisions are made by both husband and wife for both the farm produce and for household expenditure as illustrated in the following table:

Table 7: Investment and Expenditure Related Decisions

Investment / expenditure decision	Responsible		
	Male	Female	Both
Household budget allocation			X
Education of children			X
Decisions on sale of crops: for chilli, onion, cucumber, pumpkin, tobacco, cabbage – both male and female decide (crops sold locally in village)			X
Which livestock to raise			X
Which farm equipment to buy			X
Which home appliances to buy			X

82. **Marketing the farm and household agricultural and livestock produce.** Both husband and wife take active responsibility for selling farm produce such as paddy and livestock. Some vegetables produced by the farm households are sold locally in the village market. Paddy is mainly sold to Vanida Rice Mill and to other local collectors. The Vanida Rice mill buyer comes directly to the village to purchase paddy and is the preferred buyer because a fair price is offered to farmers.

83. **Rice production problems faced by male and female farmers.** The main problem faced by farmers in Dong Tai village adjacent to Vanida Rice Mill is insufficient water for cultivation purposes. Farmers are also vulnerable to erratic climatic events. Households are only able to grow one crop of rainfed rice per year because there is no supplementary irrigation water available. The local irrigation system needs rehabilitating and the main canal needs to be cement-lined. Farmers would like to be able to produce two crops of paddy per year.

84. A second problem cited is that local farmers would like to be able to sell their paddy to Vanida Rice Mill, however this is not always possible because reportedly there are times when the mill has insufficient financial resources for purchasing paddy.

85. **Laws and regulations related to land ownership.** Concerning property rights, both men and women are treated equally. Land titling has been completed in this locality and the land title is in both the husband's and wife's name. However, if it is the wife who inherited the land parcel from her parents, then the woman's signature is first. If it was the husband who inherited land from his family, then the man's signature is first on the land title. If the married couple buy land after marriage, automatically the man's signature is first on the land title. If a loan is taken from the Agriculture Development Bank and from Policy Bank it is necessary for both the signature of the husband and wife on the loan agreement. The land title is used as collateral. If a loan is taken from a private money-lender only one signature is required. There has been one case in the village where a farm household lost land as repayment for a loan taken out with a private moneylender (where the annual rate of interest was 20%).

86. When a couple marries, in some cases the husband goes to live with the wife's family and in some cases the wife goes to live with the husband's family. Sometimes they may set up a nuclear family independently of their parents. Male and female children have equal inheritance rights. However, since it is the youngest daughter who traditionally takes responsibility for taking care of elderly parents, she consequently inherits a larger share than her brother and sisters, such as inheriting the house and homestead in addition to land.

87. In the case of divorce where the man is the guilty party, the land will still belong to the first wife and their children, and the village authority is informed accordingly. In this case if the parents die, the firstborn will inherit the land.

88. **Access to and control over productive resources.** In general, in this village both husbands and wives may control the income generated from different household livestock and agricultural activities and from any outside employment.

- (i) Regarding access to and control over land, both the man and woman in the household reportedly have equal access to land;
- (ii) Regarding access to and control over capital (i.e., household income and cash), reportedly both husband and wife have equal access to capital;
- (iii) Regarding access to information and knowledge, training opportunities, and extension services, both men and women are considered to have equal access; and
- (iv) Regarding access to markets, both husband and wife have equal access.

89. **Agricultural labor and construction work or employment in construction work or using machinery.** The daily wage rate for transplanting rice is 70,000 kip per day for both men and women, and for harvesting rice, the daily wage rate is 50,000 kip per day for both men and women.

90. In this village, it is not the practice for women to work as laborers in building construction sites, only men. The reason given was that construction work is too hard and husbands do not give their permission for female family members to work as laborers on construction sites. The daily wage rate for construction workers is more than 100,000 kip per day for men. In this village, women do not drive vehicles or tractors.

91. **Access to skills training.** Both male and female farmers have attended rice production training and additional technical training related to high-yielding seed varieties, integrated pest management and ICS. Village leaders have received leadership training and capacity building in collecting data for the elaboration of progress reports. Training and orientation for organic farming has also been received although subsequently, organic farming has not been adopted.

92. For all the farmer training mentioned above, only seven female participants attended training. The farmers in the village are closely monitored by DAFO extension staff through regular weekly visits. DAFO also provides farmers with disease-prevention vaccines for livestock, since livestock production is the second major source of household income, after paddy production. The third main source of income is from vegetable production. Annual income from sale of vegetables may amount to up to 20,000,000 kip per household. Another source of income is from sale of basket work handicrafts to Chantaburi province in Thailand.

93. **Climate change.** Farmers said that they do not have any knowledge concerning climate change although they have observed increased flooding events and changes in the arrival of the monsoon season, with the rains sometimes arriving earlier than before. They have received some information from Thai television (the Thai language is very like Lao language) but in general they do not understand the implications or impact of climate change.

94. **Proposed feasibility or subproject.** When asked, village leaders reported that farming households in neighboring Dong Tai village are supportive of Vanida Rice Mill because the owner frequently supports farmers by lending them money at low interest. They are also able to purchase inputs from him. The main priority of local farmers is to be able to sell their paddy at a fair price to Vanida Rice Mill. Unfortunately, per these farmers there have been occasions in the past when the Vanida Rice Mill has not purchased their paddy reportedly due to lack of funds on the part of the owner.

95. The priority needs of the village include the following:

- (i) Rehabilitation of the irrigation system to ensure sufficient water for paddy production. The canals need to be lined for greater efficiency.
- (ii) The capacity of the farmer rice production group should be improved and structured rules and regulations should be further developed and membership should be registered.
- (iii) Training is needed to improve farmer group management, financing, accounting and marketing functions.
- (iv) Training in pest and weed control in rice production is necessary.
- (v) Information on contract farming mechanisms is needed.
- (vi) Support for a microfinance facility is necessary.

D. Feasibility Study 2 – Vegetable Producers Group for Export (Khum Pralit Peudpak Pheua Kan Song): Vegetable Collection Point and Pack House, Thongset Village, Pakxong District, Champasack Province

96. The total province population of Champasack is 694,023 (2015 Census data) and population density is 45 per square kilometer. The provincial capital is Pakse. The ethnic composition consists mainly of Lao, but also Chieng, Inthi, Kaseng, Katang, Kate, Katu, Kien Lavai, Laven, Nge, Nyaheun, Oung, Salao, Suay, Tahang and Tahoy ethnic groups.

97. The economic output of the province consists primarily of agricultural products, especially the production of coffee, tea, and rattan. It is one of the most important coffee producing areas of

Lao PDR along with Saravane and Sekong provinces. Pakse is the main trade and travel link with Cambodia, Thailand, and Viet Nam. Following the building of the Lao Nippon Bridge across the Mekong at Pakse in 2002, trade with Thailand has multiplied several fold. The bridge lies at the junction of roads to the Bolaven Plateau in the east, Thailand in the west, and Si Phan Don to the south. Consequently, the market place at the Talat Sao Heung, near the bridge, has become one of the largest in Lao PDR. Improved infrastructure has also led to an increase in tourism since the 1990s. The weaving centers of Ban Saphai and Don Kho are 18 kilometers from Pakse. The Jhai Coffee Farmers Cooperative, headquartered at the provincial capital, operates on the Bolaven Plateau. The Bolaven Plateau is also notable for its rubber, tobacco, peaches, pineapple, and rice production.

98. The subject of Feasibility Study 2, The Vegetable Producer Group for Export (Khum Pralit Peudpak Pheua Kan Song) is a member of this cooperative. Currently, there are seven agricultural and/or agribusiness producer cooperatives registered in the Champasak Provincial Department of Industry and Commerce.

99. In accordance with Champasak provincial policy, Provincial Agriculture and Forestry Office (PAFO), is promoting fruit and vegetable production zones in Batieng and Pakxong districts, with Pakxong district declared a clean agricultural zone in the context, particularly, of the development of organic agriculture. The good agricultural practice production system has been promoted in Pakxong district to reduce the use of agro-chemicals. Vegetable growers in Pakxong district formed recently an agricultural cooperative, namely, ACB Producer Cooperative comprising 11 producer's groups with 303 households.

100. Project beneficiaries¹³

- (vii) Name of village: Houayset village
- (viii) Ethnicity: Lao Lum (50%), Laven (50%)
- (ix) Literacy levels: for Lao Lum: approx. 90%; for Laven: approx. 60%
- (x) Total population: 1,787
- (xi) Total number of females: 878
- (xii) Number of village unit heads: 20
- (xiii) Number of female village unit heads: 10
- (xiv) Total number of households: 335
- (xv) Total number of families: 365
- (xvi) Number of poor households: 1
- (xvii) Number of vegetable producer groups: 6
- (xviii) Number of members in VPG: 27 (3 group leaders and 24 members)
- (xix) Average size of vegetable land holding: 1-2 ha per household
- (xx) Average size of coffee land per household: 4-5 ha
- (xxi) Total homestead land area in Houayset village: 213 ha
- (xxii) Total available land for crop production: 630 ha
- (xxiii) Total available land for coffee production: 522 ha
- (xxiv) Total vegetable production land: 110 ha
- (xxv) Daily wage rate for planting and harvesting: 50,000 LAK per person for both men and women
- (xxvi) Daily wage rate for unskilled construction work is 80,000 LAK per day (for men).

¹³ Source of data: Houayset village head, Mr. Khamsay Butthammavong, July 2016.

1. Participatory Assessment

101. From mixed gender discussions, women's focus group discussions, and interviews with village leaders and Lao Women's Union representative, held in July 2016 an assessment of the social, poverty, and gender dimensions of target beneficiaries of the vegetable feasibility study area has been elaborated.

102. **Summary.** The local population is characterized by two ethnic groups: (i) Lao Lum (approximately 50% of population); and (ii) Laven (50% of population). There are six vegetable production groups in Houayset village. Significant economic and livelihoods improvements have been taking place in recent years and farmers have moved away from subsistence agriculture and now principally sell produce for cash. This is enabling households to build new and better houses, and purchase cars and trucks for transporting vegetables. There is no significant out-migration from the village. The availability of services in the village is assessed as good and the hospital in Pakxong is relatively close by. In the village, there is a local health centre, a dispensary, a school, a temple and the main road is in good condition. The local administration is considered to be helpful when assistance is requested. Only one household in the community is classified as being poor. This is an elderly couple which does not have any available family labor. The main problems cited by male and female farmers is that the bank interest rate is considered to be very high at 14% for a short-term loan. The irrigation system which serves the local area is in need of repair. Women farmers felt they had insufficient knowledge about marketing mechanisms for their farm produce. There is a lack of basic skills and knowledge of new techniques for greenhouse production of vegetables and there is insufficient information available to farmers about climate change. One of the main recommendations was the construction of a new irrigation system to ensure sufficient water for all for vegetable production.

103. Both men and women are active in marketing agricultural and livestock produce and both are able to take responsibility for selling produce. Vegetables are usually sold in local domestic markets or to other provinces such as Saravanh, Savannakhet and also to Vientiane Capital. The collection of vegetables is usually done by female collectors who receive orders from buyers in Vientiane and other provinces. Concerning property rights, women are treated equally with men and land titles are in the names of both the husband and wife. Women frequently take responsibility for driving tractors and small vehicles and are familiar with machinery. Regarding access to information and knowledge and training opportunities however, female focus group participants agreed that men currently have greater access to opportunities than women.

2. Findings from participatory assessment

104. **Socioeconomic Characteristics.** Houayset village was newly established in 1993 and the government allocated land parcels of 1-2 ha per household for vegetable production.

105. Total homestead land area in the Houayset village is approximately 213 ha. The total available land for general crop production is approximately 630 ha, and for coffee production, approximately 522 ha. There are approximately 110 ha of land available for vegetable production, which are farmed by approximately 150 women farmers.

106. There are five village council members, one of whom is female and is also the Lao Women's Union representative. There are 20 village unit heads in total of whom 10 are female. All the women in the village have completed non-formal education and are literate.

107. The local DAFO in Pakxong District is made up of 10 divisions and there are 10 centers for delivering technical training to farmers. There are 54 DAFO staff of which 14 are females.

Twenty four staff are on temporary contracts of which eight are female staff. A major constraint faced by both PAFO and DAFO is the lack of resources for undertaking effective monitoring of farmers' cultivations.

108. Village leaders reported that in recent years, significant economic improvements have been taking place in the area, namely household livelihoods are being transformed. Farmers have moved away from subsistence agriculture and sell produce for cash. This is enabling households to build new and better houses, and purchase cars and trucks for transporting vegetables.

109. **Out migration** Focus group respondents explained that in this area there is no significant out migration of local people. In some households, young females go to Vientiane to work in the garment factory sector and some young men might go abroad particularly to Thailand to work as unskilled laborers on construction sites. The wife then remains at home to look after the children and elderly family members. However, there are no significant changes in household decision making in cases of out migration. Because the wages in garment factories are relatively low, there is no significant contribution to rural household income from remittances.

110. Only a few women have out migrated, and the reason given for this is that there are now good employment opportunities for earning income locally. Previously when women migrated from rural areas to cities and neighboring countries they generally faced greater risks than men and some of them experienced sexual abuse and discrimination.

111. Membership in organizations, cooperatives, water users associations: There is no water users association in the area because it was explained that there is no irrigation system serving the farm land. There are six farmers' production groups in the village. There is a functioning village-level Lao Women's Union committee which is made up of women.

Table 8: Membership in Village Authority and in People's Organizations

Position	Total	Male	Female
1. Leadership			
Village Chief	1	X	
Deputy Village Chief	2	X	X
Lao National Front for Construction (LNFC)	3	X	
Lao Women's Union	3		X
Youth Union	3	2	1
Security	6	X	
Army	3	X	
2. Executive Committee Members			
LNFC	2	X	X
Lao Women's Union	2		X
Youth Union	2	X	X
Security	2	X	
Army	1	X	
Membership of organizations			
Farmers Vegetable Production Groups (6)	35	X	X

112. The female focus group participants explained that in reality both men and women get on well together in the community and there is no friction between them. There is a willingness to collaborate together. It was suggested that in the future, should there be a female candidate who is well educated and skilled, then she should be encouraged to stand for village chief. It could also be possible for one of the farmers' production groups to promote a woman to stand for president of the group.

113. **Poverty Levels** Villagers explained that previously, approximately 10-20 years ago, they were considered poor, and rice production was low yielding and sufficient for home consumption only.

114. The focus group said that since upland rice cultivation is no longer allowed by the government, farmers cultivate coffee. Coffee, vegetables, and livestock are sold in order to buy rice because there is no irrigation water available for lowland rice production. The price of rice is also low and unattractive and so farmers are not very interested in growing paddy.

115. Now farmers dedicate resources for cash cropping i.e., coffee and vegetables. The second source of farm income is from livestock production. Villagers can now afford to buy better clothes and build new houses; they have bought cars and have enough money for educating their children, and even for sending them to university in Vientiane. The focus group said that everything is better now compared with previous years. All their children have received an education. Some girls have received medical training. In one family the daughter of a farmer came back to the village after graduating and was able to open a pharmacy. Many young women have been able to open small shops serving the village.

116. **Vulnerability and Inclusion** The condition of the village infrastructure and access to services is considered to be good. The village is located on the main highway to Segong Province and is approximately 17 kilometer from Pakxong. For this reason, health care at the hospital in Pakxong is easily accessible. In the village, there is a local health centre, a dispensary, a school, a temple and the main road is in good condition. The villagers explained that everything they need is available. The local administration is considered to be helpful when assistance is requested. Only one household in the community is classified as being poor. This is an elderly couple which does not have any available family labor. The focus group said that all villagers had received awareness-raising concerning Lao family law.

117. **Local Vegetable and Coffee Production.** There are six vegetable production groups in Houayset village: 24 farming households cultivate greenhouse vegetable produce. These greenhouse farmers are self taught and learnt about how to cultivate vegetables in greenhouses from direct observation of farming techniques in Pakse Phonthong District, approximately 45 kilometer away during visits to relatives.

118. Vegetables grown in greenhouses include pumpkin, cucumber, onion, garlic, green leafy vegetable, Chinese cabbage, chilli and Swiss potato. Farmers stated that no chemical pesticides are used in vegetable cultivation, and fertilizer is the only input applied.

119. There are also six large vegetable collectors who operate in the area, all of whom cultivate and produce vegetables themselves. On average each of these six households grows one hectare of vegetables. Collectors buy cabbage from farmers at 1,000 Lao kip per kilo and they sell it on at 1,500 Lao kip per kilo. Collectors organize bagging of produce in plastic sacks using hired labor. One sack contains approximately 23 kilos of cabbage, which is then sold for 25,000 Lao kip per bag. One female collector hires 10 female workers per day and pays them 1,500 kip for each sack of cabbage which is packed. In one day, approximately 30 tons of cabbage can be bagged in this way.

120. For coffee production, each family has approximately 4.50 ha of coffee land. This generates significantly large cash incomes through contract farming with the Dao Coffee factory based in Champasak. The main sources of working capital for farmers are the Agriculture Extension Bank, Policy Bank and Phatthana Bank.

121. **Work profiles in vegetable and coffee production and small livestock production.** The main decision maker for coffee production is the male farmer and the main decision maker for vegetable production is the female farmer.

122. Men are principally responsible for land preparation for vegetable and coffee cultivation, fertilizer application, and pesticide application. Women are principally responsible for weeding, poultry and small animal management. Both men and women are involved in buying inputs, nursery preparation and sowing seeds, pulling seedlings, transplanting seedling, harvesting, hauling produce, transportation and selling produce. Women frequently take responsibility for driving tractors and small vehicles and are familiar with machinery. Both husband and wife jointly decide on household budgeting, decisions concerning children's education, which livestock to raise, and which farm equipment and household appliances to buy

123. The collection of vegetables is usually done by female collectors who receive orders from buyers in Vientiane and other provinces. There are six large vegetable collectors in the area. Collectors buy cabbage from farmers at 1,000 Lao kip per kilo and they sell it on at 1,500 Lao kip per kilo. One female collector hires female workers to pack fresh cabbage into plastic sacks for transport and resale. Vegetables are usually sold in local domestic markets or to other provinces such as Savannakhet, Saravan and also to Vientiane Capital.

124. Tasks carried out by different household members in Houayset village are as follows:

Table 9: Vegetable and Coffee Production Tasks

Vegetable and Coffee Production Tasks	Responsible		
	Male	Female	Both
1 Land preparation	X		
2 Coffee land preparation	X		
3 Buying inputs			X
4 Seed sowing and nursery preparation			X
5 Pulling seedlings and/or transplants			X
6 Planting and transplanting			X
7 Weeding		X	
8 Fertilizer application	X		
9 Pesticide and/or herbicide application	X		
10 Harvesting			X
11 Hauling and/or Transport (women also drive trucks here)			X
12 Small animal management		X	
13 Poultry management		X	
14 Selling production			X

125. As a rule, women assist men in most of the farming tasks cited above and additionally share in transporting vegetables by vehicle.

126. **Main responsibilities for household chores.** The response of focus group members concerning household work distribution between females and males was as follows:

Table 10: Responsibility for Household Tasks

Household Task	Responsible		
	Male	Female	Both
1 Financial budgeting and management		X	
2 Money or income earner for households			X
3 Keeper of household cash			X
4 Going to market to purchase household needs		X	
5 Child rearing		X	
6 Cooking		X	
7 Washing clothes and dishwashing		X	
8 Housekeeping or cleaning		X	
9 House repairs and/or construction	X		
10 Fuel wood gathering		X	
11 Fetching water for home use		X	
12 Livestock raising of large animals (cows, buffalo)	X		

127. Based on the results, women are usually responsible for and perform: (i) going to the market; (ii) child rearing; (iii) cooking; (iv) washing clothes and dishwashing; (v) cleaning the house; and (vi) fetching water.

128. Men are responsible for and perform house repair and/or construction and looking after large animals which are considered tasks requiring greater physical strength.

129. **Investment and expenditure-related decisions for the household and the farm.** The main decisionmaking responsibilities of males relate to coffee tree management. Women frequently take responsibility for decisions concerning vegetable cultivation. Both males and females collaborate for constructing and building barns and buildings for storing and holding farm produce and harvested crops.

Table 11: Investment and Expenditure Decisions

Investment/expenditure decision	Responsible		
	Male	Female	Both
Household budget allocation			X
Education of children			X
Decisions on what to plant (for coffee – male and for vegetables – female)	X	X	X
Decisions on which livestock to raise			X
Decisions on which farm equipment to buy			X
Decisions on which home appliances to buy			X

130. **Marketing farm and household agricultural and livestock produce.** Both men and women are active in marketing agricultural and livestock produce and both women and men are able to take responsibility for selling household produce. Vegetables are usually sold in local domestic markets or to other provinces such as Savannakhet, Salavanh and also to Vientiane Capital. The collection of vegetables is usually done by female collectors who receive orders from buyers in Vientiane and other provinces. Transportation of produce is organized using large trucks. Some households sell produce such as Chinese cabbage directly to buyers in Song Mek in Thailand which lies on the Thai-Lao border, and to buyers in Ubon district in Thailand.

131. Production problems faced by male and female farmers: Main production problems faced:

- (i) The bank interest rate is considered to be very high at 14% per season. Some households in the village borrowed from the bank (approximate amounts of \$10,000) and have faced financial problems. Two households were unable to repay their loans and lost their houses to the bank in the subsequent foreclosure. In other examples, households have taken out large bank loans to establish coffee plantations and have faced problems keeping up with bank interest payments because their newly-planted coffee trees were not in production for another 3 years.
- (ii) Only the poorest households however borrow money from private moneylenders at an annual interest rate of 20%.
- (iii) The irrigation system which serves the local area is in need of repair.
- (iv) The women feel they have insufficient knowledge about marketing mechanisms for their farm produce. Sometimes they have to sell produce at very low prices especially during the rainy season because of a glut in production.
- (v) There is a lack of basic skills and knowledge of new techniques for greenhouse production of vegetables.
- (vi) There is no information about climate change.

132. While these problems affect men and women equally, women felt that men currently had more opportunity than women to access information and advice. One of the reasons being because as head of household, the man is invited to attend any PAFO and/or DAFO-organized training and the wife is not.

133. **Laws and regulations related to land ownership.** Concerning property rights, women are treated as equals with men. Land titles are in the names of both the husband and wife. If the woman inherited the land from her family, then the woman's signature is first on the land title. If it was the man who inherited land from his family then the man's signature is first. If the couple buys land after marriage, automatically the man's signature is first on the land title. If a loan is taken from the Development Bank – Phatthana Lao Bank both signatures are necessary on the loan agreement. If a loan is taken from a private money-lender only one signature is required.

134. **Male and female children usually have equal inheritance rights.** In the case of a divorce where the man is the guilty party, the land will still belong to the first wife and their children, and the village authority is informed. If the parents die however, the first-born child inherits the land.

135. When a couple marries, in some cases the husband goes to live with the wife's family and in some cases the wife goes to live with the husband's family. Sometimes they may set up a nuclear family independently of their parents. Regarding the ethnic minorities, it is usual for the bride to go and live with the husband's family especially for ethnic minority groups living in remote areas.

136. Access to and control over productive resources:

- (i) Regarding access to and control over land, reportedly both man and woman in the household have equal access.
- (ii) Regarding access to and control over capital (i.e., household income and cash), reportedly both men and women have access and control over these.

- (iii) Regarding access to and control over human capital resources (such as education, information and knowledge, training opportunities, and extension services), it was agreed that men currently have greater access to opportunities than women.
- (iv) Regarding access to markets, focus group participants agreed that both men and women jointly receive and control the income generated from different agricultural or livestock production and any outside employment.

137. **Agricultural labor, construction work, employment in construction work or using machinery.** In this village especially for the planting and harvesting of rice and vegetables, both men and women receive equal wages for equal work e.g., 50,000 Lao kip per day per person. Here, it is not the practice for women to work as laborers on building construction sites however, only men. The reason given was that building construction work is very hard because of this husbands are reluctant to allow female family members to work as laborers on construction sites. The wage rate for unskilled labor is 80,000 Lao kip per day. However, women frequently drive tractors and small vehicles in this locality and are familiar with machinery.

138. **Access to skills training.** Female attendance at formal training events is somewhat limited as it is usually men as heads of households who are invited to attend training conducted by DAFO. The community has received training in livestock vaccination of pigs, cows, buffalos, chickens and duck, and also training concerning the different available improved rice varieties. Focus group participants reported they have received visits from DAFO extension officers to offer advice and assistance with their vegetable-growing, and that visits are quite regular. Female farmers stated that they have also learned vegetable-growing techniques from their relatives and have watched television programs about vegetable production. Some women went to Vientiane to look at the greenhouses and learn how to grow greenhouse vegetables on their own initiative. As mentioned above, women have access to the market and have the opportunity to receive information about market prices. They also continuously monitor vegetable prices in the market. Female collectors have organized groups of farmers from three ethnic minority villages and have lent them money as working capital at a low 5% interest rate. Unfortunately, the initiative did not prove very successful as little income was generated from farmers' production. Occasionally, female collectors support ethnic minority farmers with supplying vegetable seed and fertilizer.

139. **Climate change.** Focus group respondents said that they believed that there was a change in the climate. Previously, the ambient temperature was around 25 degrees centigrade all year round. Now the temperature is higher at 31 degrees centigrade. They felt that there was a lack of information available about climate change in their area. Villagers also said that the rainy season now arrives earlier than before. The women stated that they do not have adequate knowledge about the impact of climate change on agricultural production. They said they have received some information from Thai television (the Thai language is very similar to Lao language) but in general they lack knowledge about the impact of climate change.

140. **The proposed feasibility or subproject.** Focus group participants were sceptical about whether the government would assist them with the construction of a vegetable hub, but they said they would be happy to collaborate and participate in consultation, and in any skills training provided.

141. They recommended that if a new project is launched, the women would like to be included in the planning, implementation and monitoring of the project. They believe that they are now sufficiently educated and aware and would like to participate in village consultations, and plan activities specifically for women and be given more responsibility for implementing activities. They would also like to take on responsibility for the project's financial matters and financial control of

activities. In addition, they would like to have the opportunity to visit other vegetable growing areas and learn from other places.

142. Recommendations for additional priority interventions include the following:

- (i) Construction of a new irrigation system to ensure sufficient water for vegetable production.
- (ii) The farmer production group should develop structured rules, regulations and registration of its members.
- (iii) Training is necessary for the improvement of farmer group management, financing, accounting and marketing.
- (iv) A marketing study tour is recommended so that farmers can see other successful farmer groups and learn from them.
- (v) Training to farmers in pest and weed control in vegetable production is needed.
- (vi) Information on contract farming mechanisms is needed.
- (vii) Support for a micro-finance facility is necessary.

E. Feasibility Study 3 – Upgrading the Dongxiengdee State Enterprise Biofertilizer Factory, Dongxiengdy Village, Naxaythong District, Vientiane Capital

143. Vientiane is the capital and largest city of Lao PDR, situated on the banks of the Mekong River near the border with Thailand. It is the economic center of Lao PDR. Vientiane prefecture was split off from Vientiane province in 1989. Vientiane city comprises the following districts: Chanthabouly, Hadxaifong, Sikhottabong, Sisattanak, Saythany, Naxaithong, Pak Ngeum, Sangthong and Xaysetha.

144. The estimated population of the city is 760,000 (2015 Census data).

145. The project will support upgrading of organic biofertilizer production factories with service provision to farmers (Subproject 1.3 (3)).

146. In this context, the Upgrading the Dongxiengdee State Enterprise Biofertilizer Factory has been selected as the representative subproject feasibility study. The agribusiness enterprise meets the criteria for support and its eligibility will be re-validated by the executing agency during project implementation.

147. Project Beneficiaries¹⁴

- (i) Number of Biofertilizer factory employees: 7
- (ii) Number of females: 4
- (iii) Number of males: 3

148. Raw material suppliers

- (i) Number of villages supplying buffalo and cow dung from Bolikhamsay Province: 4 (Tinhou village, Phonsavanh, Nakhouluong and Nabua, Bolikham District,)
- (ii) Total number of households supplying animal dung: 25-30
- (iii) Number of villages and districts supplying buffalo and cow dung from Khammouane Province: 4 villages in 2 districts (Nong Bok District and Buarapha District)
- (iv) Price to farmers for manure: 850,000 LAK per tons

¹⁴ Source of Data: Director, Biofertilizer factory, November 2016.

- (v) Location of bat dung raw material: Nakham village (cave), Phuong District, Vientiane Province
- (vi) Number of households collecting bat dung: 25 households

1. Findings from participatory assessment

149. The biofertilizer factory at Dongxiengdy Village, Naxaythong District, Vientiane Capital is a wholly-owned Lao state enterprise. According to the Director,¹⁵ it was established in 1997 and began fertilizer manufacturing operations using machinery, equipment and technical assistance granted by Viet Nam. Today, the factory Director estimates that undertaking the needed improvements to upgrade the factory would require an investment of approximately \$600,000. The original factory business plan was to produce and sell approximately 1,000 tons of biofertilizer per year, but in practice only 500 tons of bio fertilizer is produced annually.

150. Currently, the factory lacks the resources required to produce large quantities of bio fertilizer and for this reason only small quantities of fertilizer are produced to meet current orders. The factory's clients include farmers in several provinces of the country - Khammouane, Savannakhet, Vientiane province, Vientiane Capital and Bolikhamsay. Biofertilizer is used in the cultivation of paddy, fruit trees, rubber trees, flowers, and other crops.

151. **Use of biofertilizer.** According to factory staff, there is still a lack of awareness among the general public about biofertilizer and its benefits. Field monitoring of biofertilizer use by farmers would provide useful feedback concerning the effectiveness or otherwise of biofertilizer compared with alternatives.

152. Purchases of biofertilizer in some locations has stopped, although the reasons for this are not known. Unfortunately, resources for monitoring activities in the field are not available.

153. **Source of raw materials for biofertilizer production.** Approximately 95% of the raw materials needed by the factory is obtained from rural areas.

154. An important raw material is buffalo and cow dung. This is mainly supplied to the factory from farmers in four villages (Tinhou village, Phonsavanh and Nakhouloung and Nabua) in Bolikham District, Bolikhamsay province. There are approximately 25–30 farm households in these villages where livestock rearing is an important livelihood. In Khammouane province, there are four villages in two districts, Nong Bok District and Buarapha District which supplies the factory with buffalo and cow dung. Farmers receive 850,000 Lao kip in cash for one ton of manure.

155. A third important supplier of cow and buffalo dung for the factory is the Don Dou abattoir located approximately 12 kilometers south of Vientiane city.

156. Bat Dung is another raw material used in the manufacture of biofertilizer. The main suppliers are a group of approximately 25 households who collect bat dung from a cave near to Nakham village, in Phuong District, Vientiane Province.

157. The factory organizes transportation of dung from villages, and this is deducted from the price paid to farmers for purchasing the manure. Costs range from \$150 per ton if the manure is transported to the factory from the slaughter house in Vientiane center, up to \$300 per ton if manure is transported from Savannakhet (and \$250 per ton if transported from Khammouane).

¹⁵ Interview with factory Director and PPTA Social Development and Gender Specialists – November 2016.

158. Clients wishing to purchase biofertilizer contact the factory directly. If the client is located in Vientiane, then the factory covers the transport costs because of the negligible distance. However, for customers who are located at long distances from the factory, transportation and the hiring of trucks is the responsibility of the client.

159. **Gender division of labor for collection of raw materials.** At village level there are collectors who source livestock manure for sale to the factory. These collectors are generally women who act as brokers and sell the manure to larger buyers who are usually men. Local female collectors are usually aged between 35-45 years and are often village shop owners.

160. Traders and collectors require permission and certification from village authorities for handling this type of material.

161. The female village collector visits farm households explaining how many kilos of cow or buffalo manure she would like to purchase. She usually buys from farmers who have large numbers of livestock. In some localities, female collectors hire labourers to manually collect and transport manure. Labourers are both either male or female, but are more commonly male.

162. Regarding the collection of bat dung from caves, it is usually the men who work inside the cave and women work outside the cave packing the bat dung into sacks. This manure collection activity is usually carried out after crop harvesting.

163. **Gender division of factory employees and staff.** Following the upgrading of the factory facilities, the Director says that approximately 20 workers will be employed in the factory. Currently there are only seven employees. Of the seven permanent staff there are four females: each is responsible for administration; marketing; finance and one is a manual laborer. There is equal pay for equal work.

164. There are three male staff and all have positions of higher management: factory Director, the Deputy Director and Head of the Finance Division.

165. **Female marketing staff.** The female staff member responsible for marketing is a business management graduate and had been working at the factory for 3 years.

166. One of the problems employees face is apparently low salaries (for the marketing executive her salary is currently 1 million Lao Kip per month). Salaries are also frequently paid late, with delays of up to 3 months is not uncommon. Benefits such as health insurance coverage are not included in the Marketing Executive's salary. Staff do not receive annual end-of-year bonuses. Salary increases for factory employees were recommended to bring them up to living wage standards (i.e., up to 2 million Lao Kip per month in the case of the marketing executive).

167. **Current working conditions.** The employees are supplied with uniforms and wear protective clothing for work. However, workers did not receive any orientation or technical training related to the use of factory machinery and equipment, which is considered to be very old and in poor condition.

168. Regarding toilet facilities and sanitation, the facilities are very unsatisfactory, with only an unsanitary latrine onsite for use by both male and female staff and no nearby washbasins for handwashing.

169. **On-the-job training.** It was recommended that on-the-job training for factory workers should also cover basic information about health and hygiene, since it was reported that some of

the employees are from rural areas and have little knowledge of primary health care issues related to the job.

170. **Recommendations from staff.** One of the recommendations was that a farmer outreach program should be set up to raise awareness of the advantages of biofertilizer use in agriculture. A major advantage of biofertilizer is that it is less costly than chemical fertilizer imported from Thailand and would therefore be especially attractive for poor farmers.

171. The outreach team should be made up of three persons, two females and one male in order to ensure the effectiveness of communication with both male and female farmers in the village. Regular campaigns and visits to villages would provide valuable follow up and feedback for the factory from farmers.

172. A management committee could be established at the factory with the inclusion of female staff members to improve the effectiveness of operations, discuss working conditions and to plan activities such as monitoring and implementing awareness campaigns.

IV. MAIN FINDINGS AND RECOMMENDATIONS OF SOCIAL ASSESSMENT

173. Findings showed that the subproject populations are largely homogeneous in terms of economic status. Women are key actors in the value chains for rice and vegetables. They are producers, collectors or intermediaries, rice millers, and own and operate their own enterprises. There is equal access of men and women to markets. Both husband and wife jointly agree when, where and to whom to sell the crop, but it is the responsibility of the wife to contact the local (usually female) collector. There is joint access and control to land and capital. Although women are generally responsible for managing household finances.

174. The target population needs and demands were assessed in relation to the proposed subprojects. It was found that women and men expressed the same priorities. In Feasibility Study 1 (Upgrading Vanida Rice Mill) farmers' overriding priority was to have access to a reliable supply of water that would allow them to cultivate two crops of paddy per year. Farmers are vulnerable to erratic climatic events. It was also recommended that the village farmer producer group receive further capacity building to strengthen the group. The need for access to affordable credit was also mentioned.

175. In Feasibility Study 2 (Vegetable Collection Point and Pack House), the vegetable producer group (VPG) will have the opportunity to move up the value chain and expand its marketing options. Local farmers' needs were also for supplementary irrigation to allow them to cultivate vegetables all year round. Again, the need for affordable short term credit was also mentioned.

176. Regarding the beneficiaries absorptive capacity for the proposed subprojects both men and women were motivated to gain benefits and participate in the subprojects' capacity building activities and improve access to markets for their farm produce. There is a good fit with beneficiaries absorptive capacity for the interventions

177. In Feasibility Study 3 (Upgrading Biofertilizer factory), the need to implement a farmer outreach program to explain the advantages and cost-saving benefit of biofertilizer use especially for poor farmers, has been recognized. The establishment of a management committee to discuss working conditions at the factory, and the monitoring of biofertilizer use in the field was also recommended.

178. For ensuring that there is a poverty focus to project interventions, it is recommended that identified poor households in subproject areas should be targeted for unskilled job opportunities related to civil works. Gender disparities in employment remain extensive in Lao PDR, primarily because of traditional attitudes about appropriate occupations for women and men. This is particularly true for the construction sector, where it is believed that women either cannot or do not wish to engage in manual labor. Women are already engaged in manual labor in the agriculture sector, however, and there are many unskilled construction jobs that women could do in order to earn cash wages.

LIST OF PARTICIPANTS AND PEOPLE MET

No.	Date	Location	Name of participant	Gender	Position	Telephone number
	6/7/2016	Champasack				
1			Mr. Padith	Male	PAFO Director	
2			Mr. Sevone Sesomboune	Male	PAFO Irrigation	280 53822
3			Mr. Viengxay Sepaserth	Male	PAFO Deputy	2252 2255
4			Mrs. Sesouphan	Female	Division of CAW	55434185
5			Mrs. Phit Samy	Female	Deputy of Personnel	55948189
		Phonthong District				
6			Mr. Sakhone	Male	Director of DAFO	552256707
7			Mr. Doungpy	Male	DAFO Deputy	292 67806
8			Mrs. Bounkhong	Female	Technical	99999125
		Nong Bua Village				
9			Mr. Thongsay	Male	Village Head	98443822
10			Mr. Sakhone	Male	DAFO Deputy	29267506
11			Mr. Pheng	Male	Deputy chief of villages	55204901
12			Mr Thong	Male	FPG	
13			Mr. Cheng	Male	FPG	
14			Mrs Pheng	Female	Vegetable farmer	
15			Mrs Kham Phou	Female	Vegetable farmer	
16			Mrs Cheng	Female	Vegetable farmer	
17			Mrs Noy	Female	Vegetable farmer	
18			Mrs. Youth	Female	Vegetable farmer	
19			Mrs. Toune	Female	Vegetable farmer	
20			Mrs. Khay	Female	Vegetable farmer	
21			Mrs. Suck	Female	Vegetable farmer	
22			Mrs. Doy	Female	Vegetable farmer	
23			Mrs. Pheng	Female	Vegetable farmer	
	7/7/2016	Pakxong district				
24			Mr. Sevone	Male	PAFO Irrigation	28053822
25			Mr Som Phien	Male	Pakxong DAFO Director	5768877
26			Mr. ToTo	Male	DAFO Technical	54171210
27			Mr. Sexay	Male	DAFO Technical	9639814
28			Mrs. Sengchanh	Female	DAFO (CAW)	22278799
29			Mr. Senay	Male	DAFO	5541929
	Pm	Hoauyset Village				
30			Mr. Thong Bay	Male	Village Head	96068103
31			Mr.Sounthone	Male	Vegetable farmer	97866997
32			Mr. Khamphong	Male	Farmer	99339401
33			Mr. Tone	Male	Farmer	98864251
34			Mr.Phouth	Male	Farmer	97603220
35			Mr. Seyes	Male	Farmer	030472362
36			Mrs. Khamphou	Female	Vegetable farmer	
37			Mrs. Mone	Female		
38			Mrs. Lay	Female		
39			Mr. Khamkeo	Male	Deputy village head	
40			Mr. Thavone	Male		
41			Mrs . Aie	Female		
42			Mrs. Simma	Female		
43			Mrs. Nouné	Female		
	8/7/2016	Saravane Province				

No.	Date	Location	Name of participant	Gender	Position	Telephone number
44			Mr. Phaysan	Male	Deputy of Planning PAFO	9974622262
45			Mr. Chanme	Male	Technical Planning (PAFO)	
46			Mr. Sengdoune	Male	Laungam DAFO Deputy	99514186
47			Mr. Kham Phan	Male	Deputy of Extension of DAFO	222888904
48			Mr. Khamseng	Male	Technical staff DAFO	58456004
	9/7/2016	Khumban Khonsai (Vapy District)				
49			Mr. Khongsay	Male	Village cluster	9962998
50			Mr. Daovone	Male	Village Rice mill group	22276315
51			Mr. Somsanong	Male	Rice mill owner	557448999
52			Mr. Phouving	Male	WUG executive committee member	22710221
53			Mr. Khanha	Male	Vapy Rice mill owner	
54			Mr. Khongcahck	Male	DAFO Coordinator	
55			Mr. Kham Bay	Male	Rice mill owner	
56	1/11/2016	Thakhek District, Khammouane Province	Mr. Bounme	Male	Director of Planning (PAFO)	020 555556949 Bounme.km@mail.com
57	2/11/2016		Mrs. Soude	Female	Planning of DAFO	020 5566 3072
58			Mr. Chantalangse	Male	Dong Tai Village Head	020 56549458
59			Mr, Chan Phengsavath	Male	Dong Tai Deputy Village Head	
60			Mr. Phetsamone Bouaphanthavong	Male	Vanida Rice Mill Director	02055650890
61			Mrs. Vanida	Female	Finance manager	020 590 22998
62			Mrs. Sim Phets	Female	Head of Marketing	020 5911997
63			Mrs. Hong	Female	Rice packer	
64			Mr. Na Pha	Male	Labor manager	030 565 9303
65			Mr. Kham Se	Female	Packing office	020 5670 1'686
66	4/11/2016	Dongxiengdee State Enterprise Biofertilizer factory Vientiane Capital	Mr. Ling kham Sethalasa	Male	Director of factory	-
67			Mrs. Boun me	Female	Marketing and Administration	-
68	2/6/2016	Vientiane Province (Ban Arsang)	Mr. Xayyasit Sevilay	Male	PAFO Vientiane	020 55823313
69			Mrs. Souda Khonsavanh	Female	PAFO Agricultures	020 54409123
74			Mrs. Mrs Chantha	Female	DAFO Phonhong	030 5828130
75			Mr. Boun Pheng	Male	Planning (PAFO)	020 28889997
76			Mr. Hat Se xay sombath	Male	Villages LFNC	020 55630941
77			Mr. Som phan	Male	FPG	020 2223 4542

No.	Date	Location	Name of participant	Gender	Position	Telephone number
78			Mrs. Boun Nhong	Female	Farmers Vegetable Group	020 99605047
79			Mrs. Air line	Female	Farmers Vegetable Group	
80			Mrs. Mouy	Female	Farmers Vegetable Group	
81			Mrs. Kenkham	Female	Farmers Vegetable Group	
82			Mrs. Loune	Female	Farmers Vegetable Group	
83			Mrs. Mai	Female	Farmers Vegetable Group	020 98200009
84			Mrs. Doung	Female	Farmers Vegetable Group	
85			Mrs. Yone	Female	Farmers Vegetable Group	
86			Mrs. Bua thay	Female	Farmers Vegetable Group	
87			Mrs. Ath	Female	Farmers Vegetable Group	
88			Mrs. Oune	Female	LWU Executive committee	
89			Mrs. Chone Chanta seth	Female	Villages head	030 5014925
90			Mrs. Nam	Female	Farmers group	020 58668645
100			Mrs. Tume kham	Female	Farmers group	020 55717746
101			Mrs. Le	Female	Farmers group	020 54413 94847
102			Mrs. Sone	Female	Farmers group	020 55496078
103			Mrs. Khen	Female	Farmers group	020 55909024
104			Mrs. Ounkheo	Female	Farmers group	020 58379115
105			Mrs. Haer	Female	Farmers group	020 5581240
106			Mrs. Athphone	Female	Farmers group	020 56337664
107			Mrs. Pen	Female	Farmers group	030 5710010
108			Mrs. Khum	Female		
109			Mrs. Pen	Female		
	3/6/2016	Thoulakom District (Phakhao Village)				
110			Mr. Kham Sone	Male	Thoulakom DAFO	020 91593632
111			Village head	Male	Village head	
112			Dep. village head	Male	Deputy of village	
113			Head of WUG	Male	WUG Executive community	
114			Mr. Seng kham		Deputy of WUG	
115			Mrs. Nounnde	Female	Rice farmers group	
116			Mrs.Kheo	Female	Rice farmers group	
117			Mrs.Linda	Female	Rice farmers group	
118			Mrs. Keng	Female	Rice farmers group	
119			Mr.Bounpheng	Male	PAFO	020 28889997

No.	Date	Location	Name of participant	Gender	Position	Telephone number
120			Mrs.Keodavanh	Female	PAFO Agriculture	
121			Mr. Souvath	Male	Phakhao Rice	
122			Mr. Xayyasith	Male	PAFO	