Appendix 10
Human Resources Development

MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
IN
LAO PEOPLE'S DEMOCRATIC REPUBLIC

VOLUME III

APPENDIX-10

HUMAN RESOURCES DEVELOPMENT

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HUMAN RESOURCE DEVELOPMENT

1. General Background

Human resource development evolved as a Government policy after the party resolution of 20 September 1993, which advocated a multi-disciplinary and inter-sector approach to foster "holistic and integrated" development. By 1995, human resource development had become one of the eight national priority programs.

The general concept for HRD of the Government is to develop national core values, train civil servants, provide quality education and training of children, build and efficient and skillful labor force, preserve Lao culture, disseminate knowledge and information, and mobilize mass organizations.

In the Agriculture Vision 2020[1], the HRD program focuses on training of more qualified technicians and engineers needed for the agricultural and rural sectors. The strategy is to have district farming systems generalist workers go to the grass roots to provide adaptive research-based extension services and on the-the-job (OTJ) training to farmers and shifting cultivators on sustainable adaptive technology, particularly in the intensive rural development areas.

The Government strategy[2] for HRD consists of:

(1) The implementation of Prime Minister Decree No. 1/PM on decentralization, which requires reallocation of staff within the structure of the agriculture and forestry sector from MAF to the provincial and district authority. Base on the decentralization policy, in-service training should be provided to administrative/regulatory staff and extension staff at grass roots level.

(2) Strengthening existing and development of future education and research institutions in agriculture and forestry. That includes curriculum development of the existing training institutions under MAF, coordination with the agriculture and forestry university education of the National University of Laos, and the improvement of field research centers and stations' training facilities and experimentation/demonstration plots.

[1] Reference to MAF Vision 2020

[2] As stipulated in the Guidelines and Targets for the 2001-2005 Agriculture and Forestry Plan and Strategic Guidelines to 2001-2020 of MAF

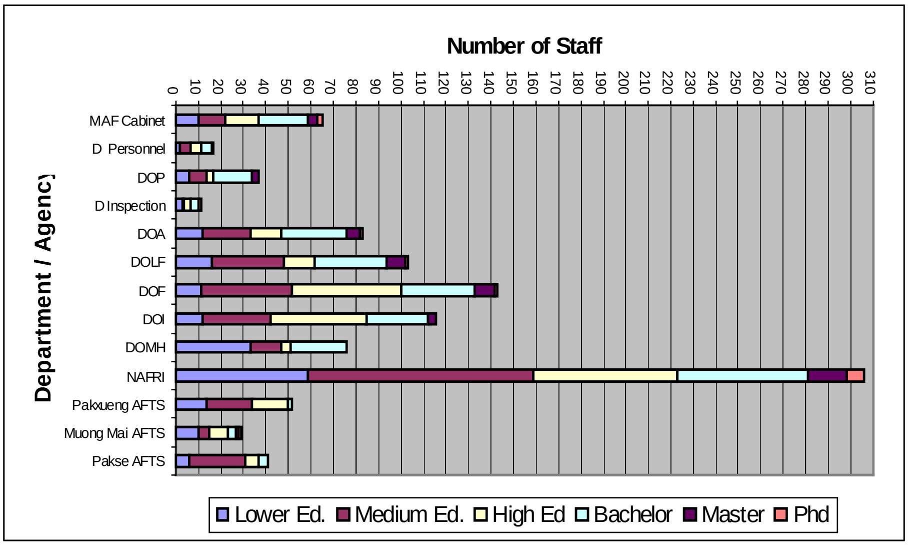
2. MAF Present Staffing

The staffing of MAF is characterized by low education and skill level base particularly in the provinces and districts.

MAF is undertaking a major decentralization process since 1998. Parts of the staffs at departmental level were transferred to NAFRI and a minor portion to the provinces. The majority of MAF staffs are under NAFRI (31.97%). The division of staff per education level is given in the figure as below.

	Lower Ed.	Medium Ed.	High Ed	Bachelor	Master	Phd	**Total**
MAF Cabinet	10	12	15	22	4	2	**65**
D Personnel	2	5	4	5	1		**17**
DOP	6	8	3	17	3		**37**
D Inspection	3	1	3	3		1	**11**
DOA	12	21	14	29	6	1	**83**
DOLF	16	32	14	32	8	1	**103**
DOF	11	41	48	33	9	1	**143**
DOI	12	30	43	27	4		**116**
DOMH	33	14	4	25			**76**
NAFRI	59	100	64	58	17	8	**306**
Pakxueng AFTS	14	20	16	2			**52**
Muong Mai AFTS	10	5	8	4	1	1	**29**
Pakse AFTS	6	25	6	4			**41**
Total:	**194**	**314**	**242**	**261**	**53**	**15**	**1,079**

Source: MAF Personnel Department

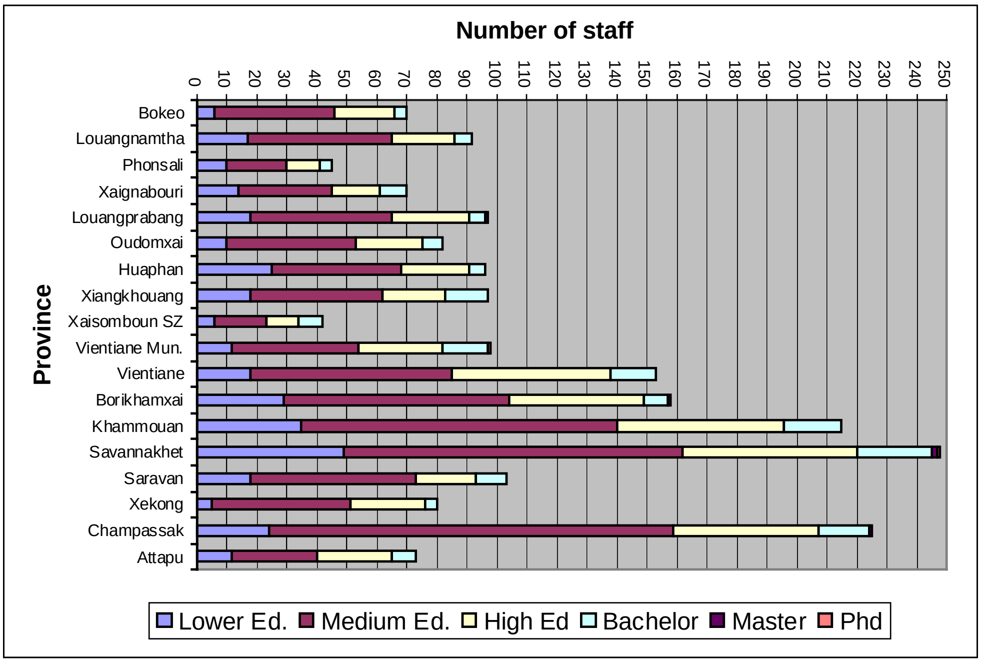


MAF Department and Agencies Staff Distribution by Education Level

The provincial and district educational distribution shows a high proportion of medium technical and vocational education, approximately 72 % of the total. High technical and university level education represent only 13% of the total district staff. The division of staff per education level is given in the figure as below.

	Lower Ed.	Medium Ed.	High Ed	Bachelor	Master	Phd	**Total**
Bokeo	6	40	20	4	0	0	**64**
Louangnamtha	17	48	21	6	0	0	**75**
Phonsali	10	20	11	4	0	0	**35**
Xaignabouri	14	31	16	9	0	0	**56**
Louangprabang	18	47	26	5	1	0	**79**
Oudomxai	10	43	22	7	0	0	**72**
Huaphan	25	43	23	5	0	0	**71**
Xiangkhouang	18	44	21	14	0	0	**79**
Xaisomboun SZ	6	17	11	8	0	0	**36**
Vientiane Mun.	12	42	28	15	0	1	**86**
Vientiane	18	67	53	15	0	0	**135**
Borikhamxai	29	75	45	8	1	0	**129**
Khammouan	35	105	56	19	0	0	**180**
Savannakhet	49	113	58	25	2	1	**199**
Saravan	18	55	20	10	0	0	**85**
Xekong	5	46	25	4	0	0	**75**
Champassak	24	135	48	17	1	0	**201**
Attapu	12	28	25	8	0	0	**61**
Total	**326**	**999**	**529**	**183**	**5**	**2**	**1,718**

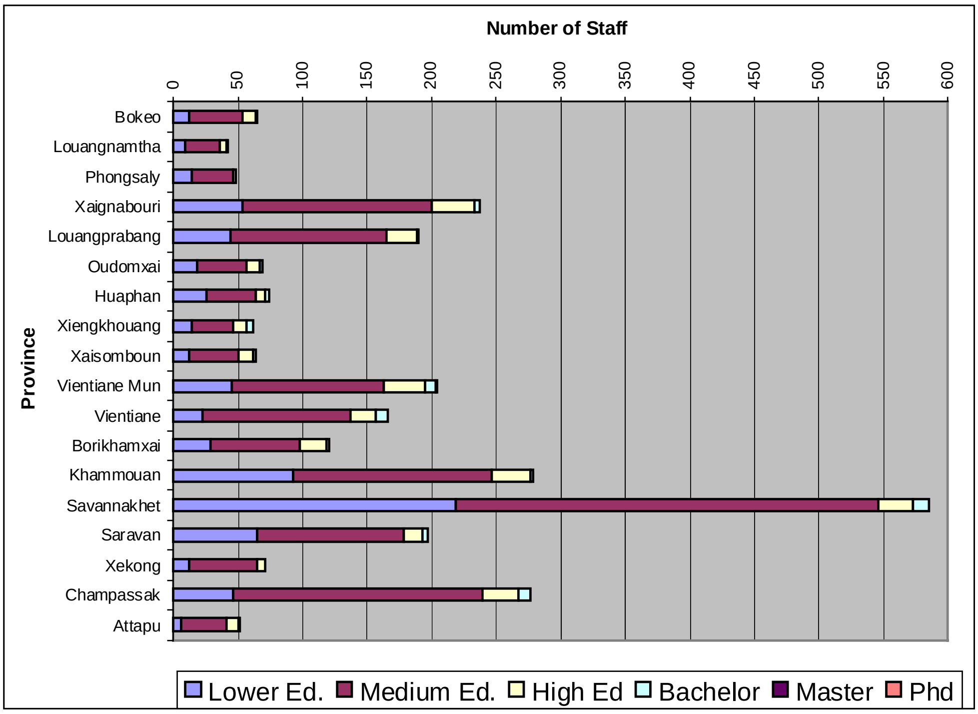
Source: MAF Personnel Department



PAFS per Province / Staff Distribution by Education Level.

Provinces	Lower Ed.	Medium Ed.	High Ed	Bachelor	Master	Phd	Total
Bokeo	12	42	10	1	0	0	65
Louangnamtha	9	27	5	1	0	0	42
Phongsaly	14	32	3	0	0	0	49
Xaignabouri	54	146	33	4	0	0	237
Louangprabang	44	121	24	1	0	0	190
Oudomxai	19	38	10	2	0	0	69
Huaphan	26	38	7	3	0	0	74
Xiengkhouang	14	32	11	5	0	0	62
Xaisomboun	12	38	12	2	0	0	64
Vientiane Mun	45	118	32	8	1	0	204
Vientiane	23	114	20	9	0	0	166
Borikhamxai	29	69	20	3	0	0	121
Khammouan	93	154	30	2	0	0	279
Savannakhet	219	327	27	12	0	0	585
Saravan	65	113	15	4	0	0	197
Xekong	12	53	6	0	0	0	71
Champassak	46	194	27	10	0	0	277
Attapu	6	35	9	1	0	0	51
Total	**742**	**1691**	**301**	**68**	**1**	**0**	**2803**

Source: MAF Personnel Department



DAFO per Province / Staff Distribution by Education Level.

The repartition of staff per sub-sector is also very unevenly distributed. The following tables show the present staff distribution per sub-sector.

PAFS repartition of staff per sub-sector

	Adminis-tration	Crops	Livestock/ Fisheries	Forestry	Irrigation	Meteo/ Hydrology	Total	%
Vientiane Municipality	15	28	18	21	16	0	**98**	4.80%
Phongsaly	14	6	6	12	4	3	**45**	2.20%
Louangnamtha	16	20	16	21	17	2	**92**	4.50%
Oudomxay	6	15	12	19	25	5	**82**	4.01%
Bokeo	8	14	9	26	11	2	**70**	3.43%
Louangprabang	16	20	15	25	13	8	**97**	4.75%
Huaphan	18	15	13	22	22	6	**96**	4.70%
Sayabouri	15	7	6	28	10	4	**70**	3.43%
Xieng Khouang	26	8	15	27	15	6	**97**	4.75%
Vientiane Province	19	14	11	72	31	6	**153**	7.49%
Bolikhamxay	30	17	19	65	25	3	**159**	7.78%
Khammouane	14	24	18	123	27	9	**215**	10.52%
Savannakhet	32	25	26	116	37	10	**246**	12.04%
Saravane	19	22	17	18	18	9	**103**	5.04%
Sekong	15	13	11	22	16	3	**80**	3.92%
Champassak	55	24	35	80	22	9	**225**	11.01%
Attapeu	12	9	7	29	12	4	**73**	3.57%
Xaisomboun Special Zone	12	5	4	13	7	1	**42**	2.06%
Total	**342**	**286**	**258**	**739**	**328**	**90**	**2,043**	100.00%
percentage to total PAFS st	16.7%	14.0%	12.6%	36.2%	16.1%	4.4%	100.0%	

Source: MAF Personnel Department

DAFO repartition of staff per sub-sector

	Adminis-tration	Crops	Livestock/ Fisheries	Forestry	Irrigation	Meteo/ Hydrology	Total Staff	Ratio per village	Ratio per Farm Household
Vientiane Mun.	34	38	31	84	14	3	**204**	2	238
Phongsaly	19	5	15	8	2	0	**49**	13	498
Louangnamtha	13	8	7	12	2	0	**42**	10	471
Oudomxay	21	7	7	20	14	0	**69**	11	484
Bokeo	17	7	8	30	3	0	**65**	6	290
Louangprabang	48	37	31	53	21	0	**190**	6	293
Huaphan	18	16	10	18	12	0	**74**	12	499
Sayabouri	49	35	41	91	17	4	**237**	2	208
Xieng Khouang	17	13	10	15	7	0	**62**	8	453
Vientiane Prov.	38	29	29	51	15	4	**166**	3	263
Bolikhamxay	16	18	24	51	11	1	**121**	3	219
Khammouane	58	54	64	76	24	3	**279**	3	158
Savannakhet	100	114	108	214	40	9	**585**	3	163
Saravane	57	22	38	72	3	5	**197**	4	210
Sekong	15	14	9	24	9	0	**71**	3	137
Champassak	52	48	47	96	18	16	**277**	3	254
Attapeu	15	11	7	17	1	0	**51**	4	289
Xaisomboun SZ	13	18	13	14	6	0	**64**	2	119
Total	**600**	**494**	**499**	**946**	**219**	**45**	**2,803**	**4**	**238**
percentage	21.4%	17.6%	17.8%	33.7%	7.8%	1.6%	100.0%		

Note Extension Staffs comprise of crops, Livestock/Fisheries, Forestry and Irrigation staffs.

Source MAF Personnel Department.

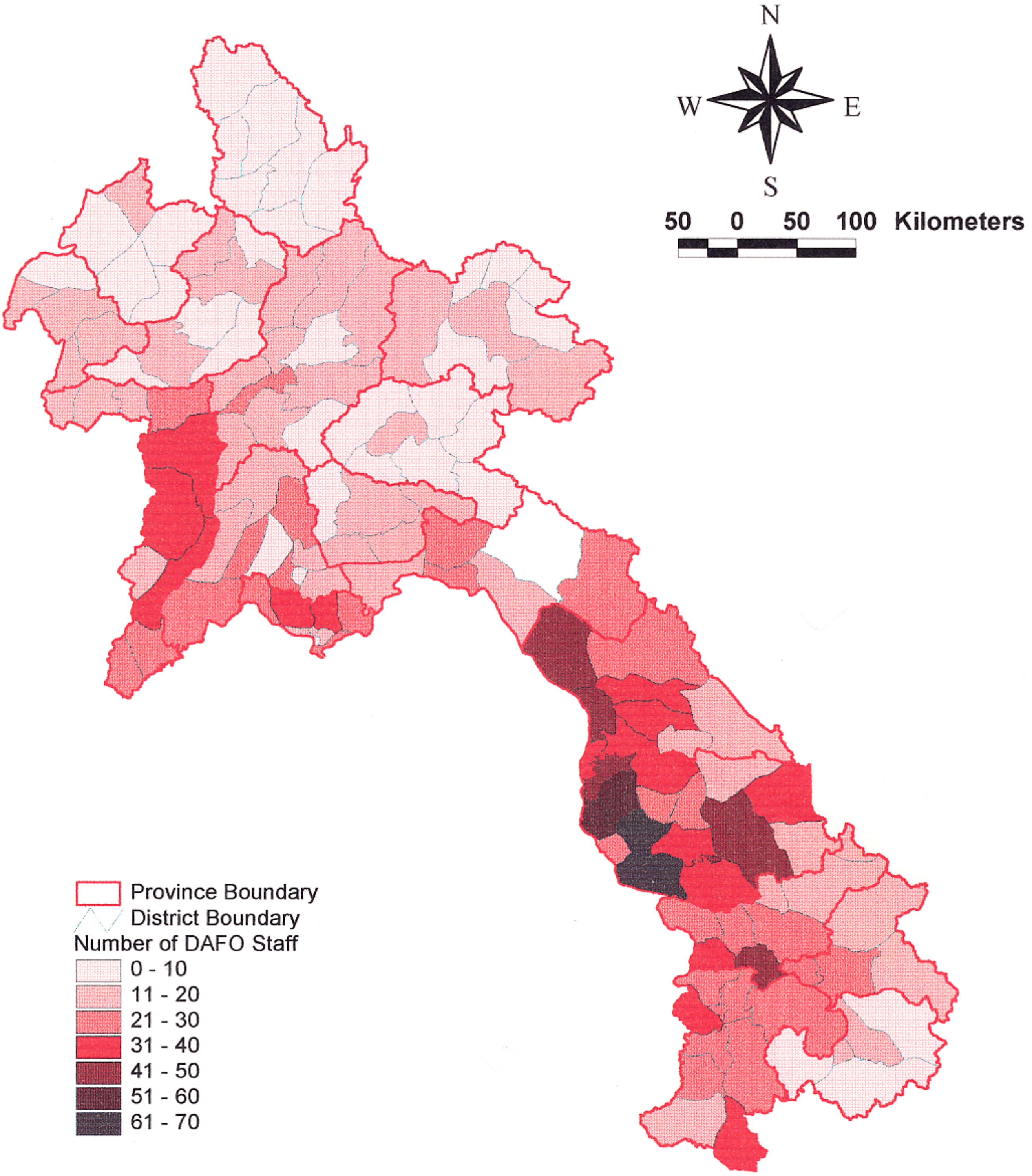
The number of staff at PAFS level has a high percentage of forestry staff (36.2%). There is also an uneven distribution of staff per province. The provinces located in the Mekong corridor are having more staff than those located in the mountainous area. According to the educational level proportion at PAFS level, only 35.14 % of the staffs have high degree education.

The uneven balance between the provinces and districts as shown in the tables has to do with the socio-economical and geo-topographical conditions of each province and district. Remote and less accessible districts, which are also the least developed and the poorest in term of revenue and budget have limited staff as well as low educational distribution. Those districts are mostly located in the mountainous areas. On the other hands the developing districts located in the plains that are wealthier and more accessible have more staff and a higher educational distribution. The average DAFO staff per village is equal to 4 villages per persons and to 238 households per person. A big difference between the least developed districts located in the mountains and the staffing in the districts located in the plains is recognized. The critical point is in Phongsali where most of all districts have a staff/village ratio of more than 10 village per person[3].

The division of staff per sub-sector is also uneven with the domination forestry staff (33.7%). This gap will have to be filled up by the increased of more staff in field of crop and livestock/fisheries or by providing additional training to the foresters in crop and livestock/fisheries subjects.

The repartition of DAFO staff per area is also show in the map as follows.

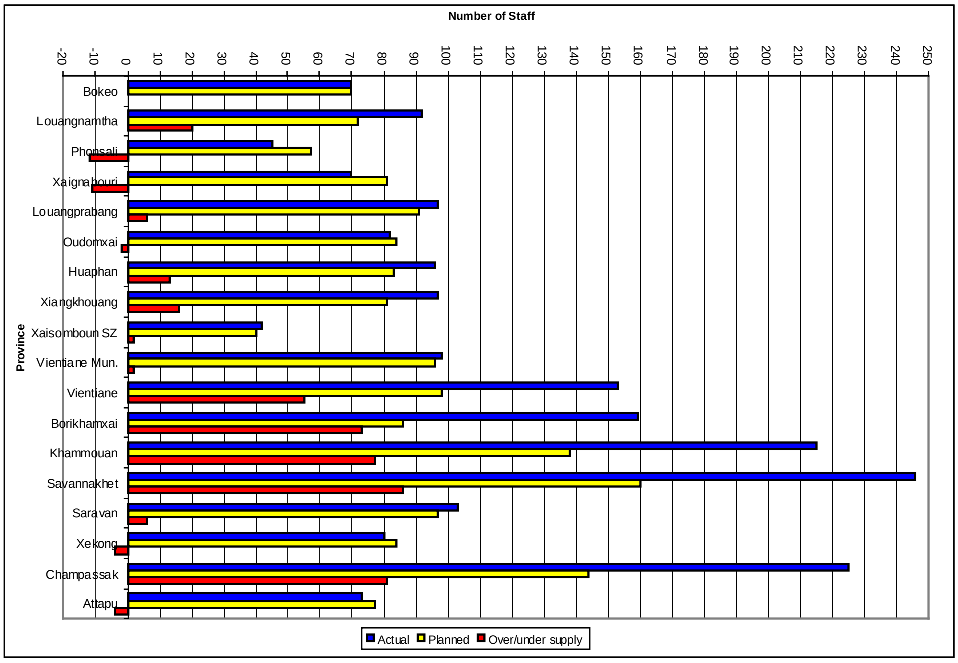
[3] The worse case is in Gnot-Ou District, which has 49 villages and 1,853 households per DAFO staff.



DAFO Staff Repartition

3. Human Resource Demand Analysis

In relation to the present staffing situation, a preliminary staff demand analysis based on the objectives for MAF's institutional development and strengthening was made. The main component of MAF institutional strengthening is the development of a National Extension System that will require the reorganization of MAF and lines agencies with the establishment of NAFEA, Provincial Extension and Training Units (PETU) under PAFS and District Extension Unit under DAFO. The organization of DAFO will consist of an Administrative Unit (Administration, Planning & Statistics and Personnel), a Regulatory Unit (Forestry, Crops, Livestock & Fisheries, Irrigation, Meteorology & Hydrology), and an Extension Unit (with FSEW). The following figures give the actual over/under supply of staff in relation to the new institutional development strategy.

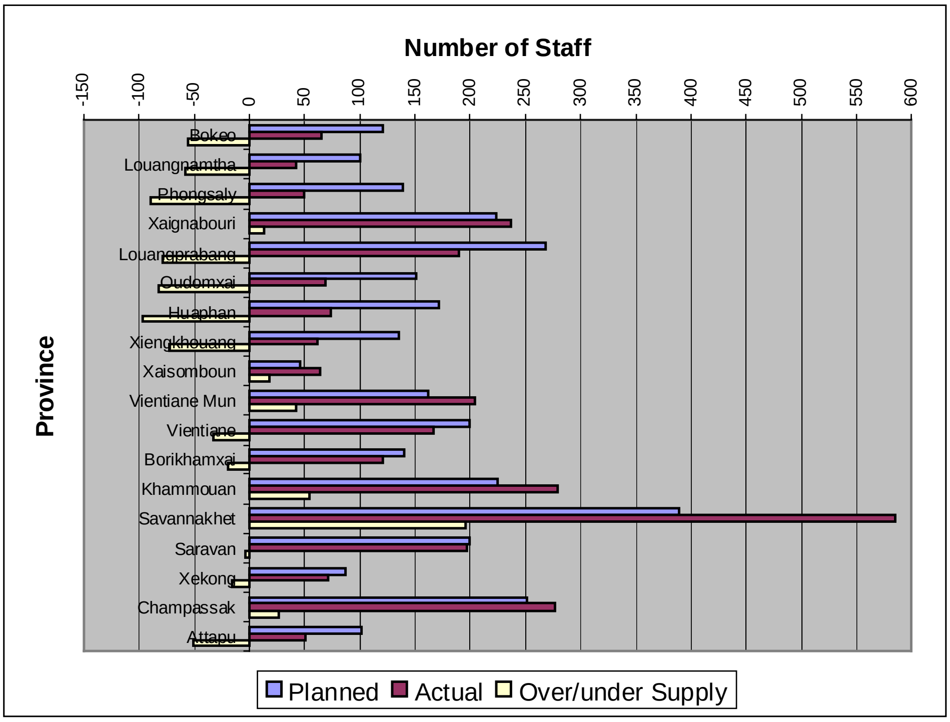


Province	Present	Planned	Over/under Supply
Bokeo	70	70	**0**
Louangnamtha	92	72	**20**
Phonsali	45	57	**-12**
Xaignabouri	70	81	**-11**
Louangprabang	97	91	**6**
Oudomxai	82	84	**-2**
Huaphan	96	83	**13**
Xiangkhouang	97	81	**16**
Xaisomboun SZ	42	40	**2**
Vientiane Mun.	98	96	**2**
Vientiane	153	98	**55**
Borikhamxai	159	86	**73**
Khammouan	215	138	**77**
Savannakhet	246	160	**86**
Saravan	103	97	**6**
Xekong	80	84	**-4**
Champassak	225	144	**81**
Attapu	73	77	**-4**
Total:	2,043	1,639	**404**

PAFS Over/under distribution of Staff per province.

Provincial Staff per sub-sector / Actual and Plan

	Actual PAFS Staff										Proposed PAFS Staff													
Provinces	Administration	Crops	Livestock/Fish	Forestry	Irrigation	Meteo/Hydro	(1) Subtotal	Projects & Stations	(2) DAFOs	(3) Total	Administration	Crops	Livestock/Fish	Forestry	Irrigation	Meteo/Hydro	Extension	(1) Subtotal	Projects	(2) DAFOs	(3) Total	Sub-Balance 1	Balance DAFO 2	Balance 3
Bokeo	8	14	9	26	11	2	**70**	0	65	**135**	10	12	8	22	10	2	6	**70**	0	121	**191**	0	-56	-56
Louangnamtha	16	20	16	21	17	2	**92**	0	42	**134**	12	12	14	16	10	2	6	**72**	0	100	**172**	20	-58	-38
Phonsali	14	6	6	12	4	3	**45**	6	49	**100**	10	8	8	12	8	3	8	**57**	6	139	**202**	-12	-90	-102
Subtotal	**38**	**40**	**31**	**59**	**32**	**7**	**207**	**6**	**156**	**369**	**32**	**32**	**30**	**50**	**28**	**7**	**20**	**199**	**6**	**360**	**565**	**8**	**-204**	**-196**
Xaignabouri	15	7	6	28	10	4	**70**	45	237	**352**	12	10	10	25	10	4	10	**81**	45	224	**350**	-11	13	2
Louangprabang	16	20	15	25	13	8	**97**	50	190	**337**	12	15	14	20	10	8	12	**91**	50	268	**409**	6	-78	-72
Oudomxai	6	15	12	19	25	5	**82**	0	69	**151**	10	14	12	20	15	5	8	**84**	0	151	**235**	-2	-82	-84
Subtotal	**37**	**42**	**33**	**72**	**48**	**17**	**249**	**95**	**496**	**840**	**34**	**39**	**36**	**65**	**35**	**17**	**30**	**256**	**95**	**643**	**994**	**-7**	**-147**	**-154**
Huaphan	18	15	13	22	22	6	**96**	12	74	**182**	15	14	12	20	8	6	8	**83**	12	171	**266**	13	-97	-84
Xiangkhouang	26	8	15	27	15	6	**97**	17	60	**174**	15	10	14	20	8	6	8	**81**	17	135	**233**	16	-75	-59
Xaisomboun SZ	12	5	4	13	7	1	**42**	0	31	**73**	10	6	4	12	2	2	4	**40**	0	46	**86**	2	-15	-13
Subtotal	**56**	**28**	**32**	**62**	**44**	**13**	**235**	**29**	**165**	**429**	**40**	**30**	**30**	**52**	**18**	**14**	**20**	**204**	**29**	**352**	**585**	**31**	**-187**	**-156**
Vientiane Mun.	15	28	18	21	16	0	**98**	103	204	**405**	15	14	18	20	15	4	10	**96**	103	162	**361**	2	42	44
Vientiane	19	14	11	72	31	6	**153**	66	168	**387**	15	14	18	20	15	4	12	**98**	66	199	**363**	55	-31	24
Borikhamxai	30	17	19	65	25	3	**159**	0	121	**280**	15	14	12	20	15	4	6	**86**	0	140	**226**	73	-19	54
Subtotal	**64**	**59**	**48**	**158**	**72**	**9**	**410**	**169**	**493**	**1,072**	**45**	**42**	**48**	**60**	**45**	**12**	**28**	**280**	**169**	**501**	**950**	**130**	**-8**	**122**
Khammouan	14	24	18	123	27	9	**215**	0	282	**497**	15	20	18	46	20	9	10	**138**	0	225	**363**	77	57	134
Savannakhet	32	25	26	116	37	10	**246**	83	586	**915**	20	20	24	40	30	10	16	**160**	83	389	**632**	86	197	283
Saravan	19	22	17	18	18	9	**103**	0	197	**300**	15	15	15	20	15	9	8	**97**	0	200	**297**	6	-3	3
Subtotal	**65**	**71**	**61**	**257**	**82**	**28**	**564**	**83**	**1,065**	**1,712**	**50**	**55**	**57**	**106**	**65**	**28**	**34**	**395**	**83**	**814**	**1,292**	**169**	**251**	**420**
Xekong	15	13	11	22	16	3	**80**	4	71	**155**	15	14	12	20	15	4	4	**84**	4	87	**175**	-4	-16	-20
Champassak	55	24	35	80	22	9	**225**	28	277	**530**	20	20	30	40	20	4	10	**144**	28	251	**423**	81	26	107
Attapu	12	9	7	29	12	4	**73**	0	51	**124**	15	10	10	20	12	4	6	**77**	0	102	**179**	-4	-51	-55
Subtotal	**82**	**46**	**53**	**131**	**50**	**16**	**378**	**32**	**399**	**809**	**50**	**44**	**52**	**80**	**47**	**12**	**20**	**305**	**32**	**440**	**777**	**73**	**-41**	**32**
Total	**342**	**286**	**258**	**739**	**328**	**90**	**2,043**	**414**	**2,774**	**5,231**	**251**	**242**	**253**	**413**	**238**	**90**	**152**	**1,639**	**414**	**3,110**	**5,163**	**404**	**-336**	**68**
% to total PAFS staff	6.5%	5.5%	4.9%	14.1%	6.3%	1.7%	**100.0%**				15%	15%	15%	25%	15%	5%	9%	**100%**						
							39%	8%	53%	**100%**								32%	8%	60%	**100%**			



Provinces	Planned	Actual	Over/under Supply
Bokeo	121	65	**-56**
Louangnamtha	100	42	**-58**
Phongsaly	139	49	**-90**
Xaignabouri	224	237	**13**
Louangprabang	268	190	**-78**
Oudomxai	151	69	**-82**
Huaphan	171	74	**-97**
Xiengkhouang	135	62	**-73**
Xaisomboun	46	64	**18**
Vientiane Mun	162	204	**42**
Vientiane	199	166	**-33**
Borikhamxai	140	121	**-19**
Khammouan	225	279	**54**
Savannakhet	389	585	**196**
Saravan	200	197	**-3**
Xekong	87	71	**-16**
Champassak	251	277	**26**
Attapu	102	51	**-51**
Total	**3110**	**2803**	**-307**

DAFO Over/under distribution of Staff per province.

The estimation as above is estimated on the need of DAFO staff in relation to the administration, regulatory and extension function. The estimation was made according to the size of the province and district, the number of villages to be covered for one FSEW, and the accessibility and mobility of the area. For example FSEWs belonging to large provinces located in the Mekong corridor will have larger villages and households coverage than the ones in mountainous areas.

4. Past and On-going HRD Projects.

MAF has HRD components in its overall plan. The goals defined in the HRD plans are more quantitative than qualitative and tend to follow conventional models of what knowledge and skills are needed. Flexible and creative development skills are not part of the repertoire.

Three major projects in the field of human resource development have been implemented and on going at the MAF.

4.1 Asian Development Bank (ADB) Technical Assistance (TA) projects for developing and strengthening MAF institution

From 1993 to 1996 ADB financed a series of Technical Assistance (TA) projects for developing and strengthening MAF institution. The projects are TA 1745-LAO (Phase I) and TA 2333-LAO (Phase II): Institutional Development and Strengthening of Ministry of Agriculture and Forestry". The projects emphasized on the development of MAF institutional efficiency level with major inputs to strengthening of the Ministry's planning systems. The project components consisted of the development of planning knowledge and skills through in-service training of Ministry to the line departments and to the provincial agriculture and forestry services. Technical assistance, systems development and hardware inputs were developed through three major areas[4].

- sector planning component to establish a sector, program and project planning and resource management capability within MAF/DOP for the Ministry to play its key role in supporting the market oriented development of agriculture and forestry;
- institutional development and strengthening component to help MAF establish specific objectives and terms of reference and job description for the operational departments of the Ministry, to assess MAF's systemic weaknesses and develop remedial action program; and
- human resources development planning component; to develop a MAF personnel management information system, to analyze personnel distributions, to evaluate functional and skills distribution supply and demand gaps, which must be closed to enable the Ministry's to play its new role in the market economy, to help establish a ministerial resources development plan.

[4] Quoted from: TA 2333-LAO: Institutional Development and Strengthening of Ministry of Agriculture and Forestry (Phase2), Final Report, 25 September 1996. Lao People's Democratic Republic, Ministry of Agriculture and Forestry, Cargill Technical Services.

According to the project final report the impact of the projects has been the improvement in organizational and operational planning efficiency from 30% in 1993 to about 60% in 1996. The TA also assisted MAF in its reorganization following establishment of the Department of Planning and the Department of Organization and Personnel.

A supply/demand analysis for MAF personnel was made under the implementation of the project, focus were given to the demand of Subject Matter Specialist (SMS) at PAFS level and of Farming System extension Workers (FSEW) at district level. According to the supply/demand analysis (1996) there is a district deficit of 713 staffs and a province surplus of 227 staffs. Recommendations were given to reshuffle personnel within MAF, the province and districts in order to restore the imbalance.

By considering the actual personnel statistics (2000) the personnel ratio remains the same since 1996. According to the Personnel Department, action has been taken from MAF to transfer part of its personnel to the province and from the province to the district since 1998[5]. Nevertheless, the staff reshuffling process is hampered by constraints related to working conditions and budget limitation that are outside the capacity of the districts and provinces especially for those in mountainous areas.

Based on the supply/demand analysis the project elaborated a Human Resource Plan (HRP) for MAF. The HRP has not been implemented in relation to the cancellation of the project Phase III. However, the philosophy and concept developed under the HRP is highlighted in the Government's strategic vision 2020.

4.2 Lao-Swedish Forestry Institutional Strengthening and Human Resource Development Sub-Program

Since 1991 the Lao-Swedish Forestry Development Program has implemented a sub-program for the institutional strengthening and human resource development for the forestry sector. The main objective of the human resource development is "to strengthen the competence and capacity of the staff to handle the forestry sector with objective to improve productivity and sustainable use of forest and agriculture land in combination with conservation and protection of target areas". The objectives of the project, which is now at its 4th phase comprise of: (1) support to the legal framework, (2) human resource development, (3) planning,

[5] MAF Instruction No. 967/AF.PD.98 dated 6/5/1998.

budgeting and finance management, DAFO management system, (4) research management including support to library and information center, and (5) support to program management.

The project is an example of project driven HRD development. The impact of the project is marginal when comparing the large number high-educated staff in forestry sector to the other sectors. However, there have been a major input from “external resources” to the project and there is doubt about the capacity of existing institutions to continue such program under its “local resources”.

4.3 National Capacity Building Project / Integrated Watershed Management

The project in funded by DANIDA and has the overall development objective to enhance the capacity for environmental planning and management in the Office of International Cooperation, Ministry of industry and Handicraft, Ministry of Agriculture and Forestry, and the Science, Technology and Environment Agency.

The objective for MAF is to increase the capacity of MAF in planning and implementation of sustainable watershed management. The out-puts of the project6 as specified in the inception report stipulate the formation of 10-15 MAF staff in their capacity to use English as working language and in using relevant software packages. The formation of 20 MAF staff capable of providing support and guidelines for preparation and implementation of watershed management plans (WMPs). And, drafting of project document on a “Training Program for MAF implementing Staff related to Integrated Watershed management”.

4.4 Other Donor Projects related to HRD in MAF

Aside from the 3 main projects related to HRD in MAF there are a number of donor projects that have training and capacity-building components attached to their activities. Most of the projects are sector oriented and is targeting mainly staff at MAF and at provincial level as well as project beneficiaries that are involved in the project. It is actually not possible to summarize the number of persons trained under the projects training and capacity building program. As an indication, the major projects, which have HRD components, are listed per sub-sector as follows[7].

[6] National Capacity Building Project, Inception report, Appendix II, MAF Components, April 2000.

[7] Reference to list of on-going project annexed to this report.

Crops Sub-sector

- Pilot Extension Project (PEP) (SDC)
- Boloven Plateau Rural Development Project (AFD)
- Xieng Khouang Agricultural Development Project (IFAD)

Livestock and Fisheries Sub-sector

- Strengthening of Livestock Services and Extension Activities (European Union)
- Improving Livestock Production Systems through the Integration of Forages on Smallholder Farms in Northern Laos (AusAID)
- Living Aquatic Resources Institute (DANIDA)
- Overcoming Constraints on the Extension of Livestock Production in Bokeo and Louangnamtha (ACIAR)
- Migration Spawning and Harvest of Mekong Fish Species (NORAD)
- Aquaculture Improvement and Extension Project (JICA)

Forestry Sub-sector

- Lao Swedish Institutional Strengthening and Human Resource Development Sub-Program (SIDA)
- National Capacity Building Project for Integrated Watershed Management (DANIDA)
- Forest Conservation and Management Project (FOMACOP), (WB)
- District Upland Development and Conservation (WB, IBRD or IDA)
- All NBCA Conservation Projects
  Shifting Cultivation Stabilization Pilot Project (ADB)
- Sustainable Management of Resource in the Lower Mekong Basin (GTZ)
- Support to Institutional Capacity Building of National Tree Seed Sector (DANIDA)
- Critical Wetlands in the Lower Mekong Basin (ADB)
- Sustainable Use of Natural Resources. Institutional Strengthening and Education (NORAD)

Irrigation Sub-sector

- Farmer Irrigated Agriculture Training (FIAT), (UNDP)
- Sustainable Irrigated Agriculture Project (SIRAP), (MRC)
- Community Managed Irrigated Project (CMI), (ADB)
- Agriculture Development Project (WB)
- Irrigation Development and Ecosystem Conservation (UNDP)
- Rehabilitation of Nam Tan Irrigation Project (UNDP/UNCDF)

Meteorology and Hydrology Sub-sector.

- Meteorological Equipment Installation (France)
- Meteorology and Hydrology Network Project (CFD)
- Meteorology System Improvement (Japan)

4.5 Other HRD Program Outside Lao PDR

There are larger human resource development programs that are covering many countries in Southeast Asia. Some projects have their programs extended to MAF. The main programs that could be cited are:

– The Program on Management of Land, Forest, and Water Resources in Lao PDR and Vietnam financed by DSE[8] (Germany).

– The Mekong River Commission (MRC) Human Resource Development Program.

– The Human Resource Development Program under the Mekong Sub-Region Development Program of ADB.

– The ASIAN Human Resource Development Program.

5. In-service Training

In relation to the human development and extension program of each sub-sector there exist a number of training facilities under the institutional framework of MAF. As specified above, many training programs are ongoing under donor assistance projects. Those programs are not coordinated nor summarized under any personnel carrier development plan. On the other hands, overseas training projects are mostly benefiting staff at MAF level rather than those at provincial and district level. This is mainly due to the uneven educational distribution within PAFS and DAFO and to the few numbers of staff with English and other languages working skills. Therefore, there is a need to strengthen MAF personnel management by following up the activities already initiated by the ADB projects.

MAF has about 29 training centers under its institutional frameworks. Most of them are under the responsibility of NAFRI. It is clear that due to the lack of integrated extension and training system those training facilities have not been fully utilized and tend to be abandoned after the completion of the donor assistance projects. However, the existence of those facilities is a good basis for the development of future national training program for government staff and farmers. It is a perquisite to strengthen the capacity of the existing training centers

[8] German Foundation for International Development (DSE)

in the framework of developing the integrated agricultural extension system and of strengthening the management system of MAF.

Summary of Training Facilities under MAF.

Name of Institution	Agency Responsible	Location	Training Capacity (person)	Dormitory Capacity (person)	Present activity
1. Agriculture Research Center	NAFRI	Thadokkham Vientiane Mun.	60 pers.	30 pers.	Seminar for different projects Training of MAF Staff
2. NAFRI-Soil Research Center	NAFRI	Dongdok Vientiane Mun.	50 pers.	NA	Seminar for different projects Training of MAF Staff
3. Living Aquatic Resource Research Center	NAFRI	Sikhotabong Vientiane Mun.	50 pers.	NA	Seminar for different projects Training of MAF Staff
4. Horticulture and Vegetable Research Center	NAFRI	Haddockeo Vientiane Mun.	30 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
5. Livestock Research Center	NAFRI	Nam Souang Vientiane Mun.	30 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
6. Forest Research Center	NAFRI	Nam Souang Vientiane Mun.	30 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
7. Coffee Research Center	NAFRI	Km 35, Paksong Champassak	50 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
8. Northern Agriculture and Forestry Research Center	NAFRI	Houay Khot Louangprabang	30 pers	30 pers	Seminar for different projects Training of MAF Staff Training of farmers
9. Shifting Cultivation (slopping land) Research Station	NAFRI	Thonkhang, Nan District Louangprabang	30 pers	30 pers	Seminar for different projects Training of MAF Staff Training of farmers
10. Teak Research Station	NAFRI	Kengben Pakxueng Louangprabang	30 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
11. Namtha Rice Research Station Louangnamtha	NAFRI	Namtha Louangnamtha	30 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
12. 30 Ha Rice Research Station Sayaboury	NAFRI	Namtan Phiang District Sayaboury	20 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
13. Thasano Rice Research Station Savannakhet	NAFRI	Thasano, Khanthaboury Savannakhet	20 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
14. Phongnam Rice Research Station Champassak	NAFRI	Phongnam Champassak	20 pers.	NA	Seminar for different projects Training of MAF Staff Training of farmers
15. Agriculture Development Center	DOA	Naphok Vientiane Mun.	60 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
16. Agriculture Extension Agency (AEA)	DOA	Salakham Vientiane Mun.	50 pers.	20 pers.	Seminar for different projects Training of MAF Staff Training of farmers

(to be continued)

Summary of Training Facilities under MAF. (continuation)

Name of Institution	Agency Responsible	Location	Training Capacity (person)	Dormitory Capacity (person)	Present activity
17. Forestry Training Center	DOF	Houaygnang Vientiane Mun.	60 pers	30 pers.	Seminar for different projects Training of MAF Staff
18. Northern Agriculture & Forestry Extension Training Center	DOF	Xiang-Gneun Louangprabang	60 pers.	60 pers	Seminar for different projects Training of MAF Staff Training of farmers
19. Southern Agriculture & Forestry Extension Training Center	DOF	Xepon Savannakhet	60 pers	60 pers	Seminar for different projects Training of MAF Staff Training of farmers
20. Irrigation Training Center	DOI	Chanthaboury Vientiane Municipality	60 pers	NA	Seminar for different projects Training of MAF Staff Training of farmers
21. Meteorology and Hydrology Training Center	DOMH	Sikhotabong	30 pers	NA	Seminar for different projects Training of MAF Staff Training of farmers
22. Savannakhet Agriculture Training Center	PAFS Savannakhet	Nakae, Khanthaboury Savannakhet	60 pers.	60 pers.	Seminar for different projects Training of MAF Staff Training of farmers
23. Namtan Project Compound	PAFS Sayaboury	Namtan, Phiang District, Sayaboury	30 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
24. Vientiane Province Upland Development Center	PAFS Vientiane Province	Hinheup, Vientiane Province	30 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
25. FORCAP	PAFS Vientiane Province	Sivilay, Hinheup Vientiane Province	30 pers	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers
26. Sericulture Development Project Compound	PAFS Vientiane Municipality	Naxaythong, Vientiane Municipality	25 pers.	25 pers.	Seminar for different projects Training of MAF Staff Training of farmers
27. Namtha Livestock Development Center	DOLF, PAFS Louangnamtha	Namtha, Louangnamtha	25 pers.	25 pers.	Seminar for different projects Training of MAF Staff Training of farmers
28. Louangprabang Livestock Development Center	DOLF, PAFS Louangprabang	Louangprabang	25 pers	25 pers	Seminar for different projects Training of MAF Staff Training of farmers
29. Agro-Forestry Training Center	PAFS Khammouane Province	Thakhek Khammouane Province	60 pers.	30 pers.	Seminar for different projects Training of MAF Staff Training of farmers

The need to develop and implement stronger market-oriented agricultural production is a demanding challenge for government agencies and farmers communities living in the rural areas. Agricultural extension should be developed under MAF national program with the establishment of the NAFEA and its related agencies at provincial and district level. In each district a District Extension Unit (DEU) should be established and FSEWs assigned. District FSEWs should be trained in two basic areas: implementation of village development and planning and technical training as farming system generalists, which will enforces the concept of the farm as a total system, rather than the farm as an unrelated series of production activities.

In-service training support should be provided to develop and strengthen the national agricultural and forestry extension services. This should be made through the establishment and development of Regional Agriculture and Forestry Extension Training Centers (RAFETCs) and Farmer Vocational Schools (FVSs). The Village Development Planning Training Program of the RAFETC would establish the basis for developing the extension methodology for strengthening agricultural and forestry extension services.

Training of farmer would be one of the main activities of the RAFETC, short training courses for farmers would be tailored according to the need in each locality. However, regular farm management courses that include basic knowledge in crops and livestock production should be established. Special courses for farmers would be also established and would cover different topics (rice, crops, cattle-ruminant, poultry, fishery, agro-forestry, management of Non-timber Forest Products, agro-processing, marketing, etc) and the need of the different locality.

6. Technical Education in Agriculture and Forestry

Since the establishment of the Lao PDR technical education in agriculture and forestry is placed under the responsibility of the Ministry of Agriculture and Forestry (MAF). Agriculture technicians (crops and livestock) were educated in Nabong Agriculture College, Pakxueng Agriculture School, Nakae/Savannakhet and Pakse Agriculture School. Forestry technicians were educated in Dongdok Forestry College, Xieng Ngeun Forestry School, Muong Mai Forestry School and Xepon Forestry School. On the other hands, irrigation technicians were educated at the Tadthong Irrigation College.

Following the institutional development of the Lao education program by the establishment of the National University of Laos (NUOL) in 1995, agriculture and forestry technical education was also restructured in relation to the application of new development policies within the agriculture sector. The 3 colleges that were providing higher technical education were transferred to NUOL and formed respectively the Nabong Faculty of Agriculture, the Dongdok Faculty of Forestry and the Department of Irrigation Engineering under the Faculty of Architecture and Engineering.

In relation to the Human Resource Assessment made by MAF there was a need to reorient the objective of technical education and to reduce the number of student within the existing agriculture and forestry schools. In 1995, the Xieng Ngeun Forestry School and Xepon Forestry School were turned into Agriculture and Forestry Training and Extension centers. The Pakxueng Agriculture School, Muong Mai Forestry School and Pakse Agriculture schools were established into Agriculture and Forestry Technician Schools (AFTS). The Nakae Agriculture School was turned into a training center and was later reinstated as an Agriculture Technician School in 1999.

6.1 The Agriculture Forestry Technicians Schools (AFTS)

Under MAF there are 3 Regional Agriculture and Forestry Technician Schools (AFTS) located in Louanprabang (Northern), Bolikhamxay (Central), and Champassak (Southern). All school are providing a 3 year technical education to upper-secondary school graduates. Due to their historical background and conditions the 3 schools have different academic studies.

The Northern AFTS emerged from the merging of the Xieng-Ngeun Forestry Technician School and the Pakxueng Agriculture Technician School in 1999. The curriculum consists of forestry subjects for the first year at Xieng-Ngeun and a second and third year of crops and livestock subjects (divided in two sections) at Pakxueng. The Central AFTS in Muong Mai Bolikhamxay is a Forestry Technician School, which recently introduced some agriculture subjects to its curriculum. The Southern AFTS in Pakse Champassak is an Agriculture Technician School that has introduced some forestry subjects into its curriculum.

There is a need to enhance the restructuring of the technician schools academic program and improve the school facilities in order to develop agriculture and forestry technical education under the agriculture and forestry sector vision. The major development component should be to develop an uniform curriculum for the 4 technician schools (Pakxueng-Louangprabang, Muong Mai – Bolikhamxai, Nakae – Savannakhet and Pakse – Champassack) that will covers 4 major subjects such as crops, livestock/fisheries/ veterinary, forestry and irrigation. The development of the new curriculum would be followed by; the development of lecture notes and text books for the new major subjects; the development of botanical laboratory, veterinary laboratory, soil laboratory, and other laboratories specified in the curricula and syllabi; and the development tools, equipment and teaching aids. The development of school farms would be one feature for the new practical and market oriented curriculum. The development of school farms would include the construction of training facilities, irrigation system, livestock pastoral areas, fish culture, agro-forestry fruit tree orchards, pig farms, poultry farms etc. depending on the location. The farm would also serve as schools for farmers.

A teacher/trainer upgrading program should be initiated in order to upgrade the teaching capacity and the educational level of the teachers and trainers required under the new curriculum. The program would include overseas training scholarships for teachers/trainers and long term and short term training at NUOL and in the form of On the Job Training at the schools.

6.2 The Irrigation Technician School, Tha-Ngon

Since 1996, the Government of Lao PDR implemented irrigation priority programs, which have been able to almost double the country's irrigated areas from 156,000 ha in 1996 to 295,000 ha in 2000. This drastic change has an impact to the limited number of irrigation technicians that are presently available in the provinces and districts. The need for irrigation technicians is also found in the private sector in term of construction and mechanical installation and operation and in the communal sector (water users' organization) in term of water management, irrigation system operation and maintenance, and mechanical operation and maintenance. The need of technician increased furthermore when NUOL decided to stop irrigation technical education to concentrate on the NUOL's bachelor program.

MAF has recently established an Irrigation Technician School in Tha-Ngon Vientiane Municipality. The first batch of students started this educational year (2000-2001). The objective of the school is not clear and contradicts with the concept of FSEW. The curriculum taught at the school is new and contains mainly irrigation engineering and water management subjects. The point is to define the future role and function of the graduated irrigation technician for DAFO in relation to the FSEW generalist concept. Aside from that the school lack of qualified teachers and trainers, lack of teaching aids, lack of lecture notes and books, lack of laboratories and workshops for field practice.

Similar to the AFTS there is a need to develop the schools academic program and to improve the school facilities in order to develop irrigation technical education under the agriculture and forestry sector vision. The major component of the project would be to develop a comprehensive curriculum for the school. This would be followed by; the development of lecture notes and text books for the new major subjects; the development laboratories specified in the curricula and syllabi; the development tools, equipment and teaching aids; and the development of mechanical workshop and school farms.

In addition, diverse existing irrigation facilities representing the different existing irrigation system in Lao PDR will be selected as field laboratories for the school field practice. About 10 irrigation systems located in the different part of the country and representing the different sizes (area), infrastructure system and geographical condition will be selected. Under the school academic program, these training laboratories will be rehabilitated. The rehabilitation process that will also include irrigated agriculture development and water users group development will serve as on the job training grown for the teachers/trainers and for the students.

A teacher/trainer up-grading program will be initiated in order to upgrade the teaching capacity and the educational level of the teachers and trainers required under the new curriculum.

6.3 Technician Schools under the Ministry of Education

There are also 2 technician schools under the Ministry of Education that are providing education in agriculture. One establishment is located in Vientiane Municipality (Dongkhamxang) and the other in Vientiane Province (Phonmi).

The Dongkhamxang technician school was established in 1997 and has the main objective is to form technician and trainers to serve the public and private sector, therefore pedagogic subjects is added to the 3 mains agriculture subjects taught in 3 sections at the schools. The sections are crops and plant protection, livestock and veterinary, and forest conservation and natural environment. The curricula of the school comprise of about 3500 teaching hours divided into 3 academic years. Field practice covers only 34% of the total teaching hours, which is very low for a technician school.

There is no coordination and academic exchange between the technician schools and the AFTS. According to PAFS and DAFO, people graduated from those schools are of lower level if compare with those graduated from the AFTS. Similar development and improvement as for the AFTS and the Irrigation Technician School would be needed for the two Technique Schools.

7. University Education in Agriculture and Forestry

Following the establishment of the National University of Laos (NUOL) in June 1995, the School of Irrigation Tadthong, the Dongdok Forestry College, and the Nabong Agriculture College were transferred from MAF to NUOL. The 3 institutions are now forming respectively the Department of Irrigation

Engineering of the Faculty of Architecture and Engineering, the Faculty of Forestry and the Faculty of Agriculture. The academic program of the faculties has been developed recently and consists of two years of foundation studies at the School of Foundation Studies at Dongdok and followed by three years of professional bachelor degree study at the faculties.

The above institutions are playing an important role in relation to MAF's human resource development especially in building up the pool of subject matter specialist for PAFS. NUOL plans to establish Master degree will start in 2005 depending on the readiness of each faculty. It is anticipated that Ph.D. degree would be initiated after 2010. In the mean time, there is a need to create university-bridging programs for technician diploma and higher diploma holders, which consist of more that 68.8% of MAF staff. NUOL is presently analyzing the possibility to let technician diploma holder to enter the 3rd year of the bachelor program without passing through the School of Foundation Studies. Another bridging program for higher diploma holder should be initiated in order to encourage MAF staff to up-grade their education in a shorter period.

7.1 The Department of Irrigation Engineering, Tadthong

The Department of Irrigation Engineering is conducting three academic programs. The first program is following the bachelor program of NUOL (5 years education with 2 years of foundation studies and 3 years professional studies). The second program is the follow-up of the previous higher diploma program (4 years education from upper-secondary graduation). The third program id the continuation of the 3 years irrigation technician program (2 batch of student remains on the academic year 2000-2001). Aside from those regular programs, the department is providing special high diploma program outside office hours. In the present academic year the department has 778 students with 652 student on the high diploma courses and only 65 students on the bachelor courses. In comparison with the two other faculties the Department has not got any external assistance to support its transition from technician level to university level education. Due to the diversity of academic programs presently under going in the department and the large number of students, there is a shortage of professors and teachers, lack of teach materials, lack of classroom and other facilities such as dormitory and refectory.

Emphasis would be made in the development of curricula, pedagogic capacity and human resource. Due to the academic level and shortage of graduate staff the master degree in irrigation engineering would be established in a later stage.

7.2 The Faculty of Forestry Dongdok

The Faculty of Forestry is conducting two academic programs. The first program is following the bachelor program of NUOL. The second program is the follow-up of the previous higher diploma program (4 years education from upper-secondary graduation). The faculty has actually 594 students with 399 student on the high diploma courses and 195 students on the bachelor courses. Since 1999 the faculty received the assistance from the German Agency for Technical Cooperation (GTZ) and the German Development Bank (KfW) to promote its academic program and facilities. The Promotion of Forestry Education Project (PROFEP) objective is to assist the faculty in education, training and upgrading of forestry students and academic instructors. The project components consist of the development of educational framework for B.Sc. in Forestry, Human resource development through knowledge enhancement practical training in forest management and applied research, and institutional building and organizational development. The project is at its 3rd phase and 4th phase is presently under consideration.

The development of the Dongdok Faculty of Forestry would be a follow up of the German funded project for the promotion of forestry education at the faculty. The second development phase would be to establish a master degree in forestry watershed management and land use planning.

7.3 The Faculty of Agriculture Nabong

The Faculty of Agriculture is also conducting two academic programs. The first program is following the bachelor program of NUOL. The second program is the follow-up of the previous higher diploma program (4 years education from upper-secondary graduation). The faculty has actually 515 students with 316 student on the high diploma courses and only 119 students on the bachelor courses. Since 1997, the “Projet de Transformation de l’Ecole Superieur d’Agriculture de Nabong en Faculte d’Agriculture (PTEF)” has supported the transition of the Nabong Agriculture College to become an Agriculture Faculty. The project is funded by the French Government through the Agence Francaise pour le Development (AFD). The project second phase 2001-2004 is under discussion and will have the objective to strengthen the faculty in all fields.

The development of the Nabong Faculty of Agriculture Sub-project would be the continuation and follow-up of the on-going French supported project for strengthening the academic program and teaching capacity of the faculty. The second development phase would be to establish and organize two additional departments, the Department of Fisheries and the Department of Agriculture Processing in the Faculty, and to develop master degree in the field of crop and livestock sciences.

7.4 SMS Training

The need to upgrade the quality of Agriculture and Forestry University education through the improvement of curricula and syllabi and the improvement of related faculties and department of NUOL, and develop formal training and education in agriculture and forestry for future Subject Matter Specialists for MAF has been identified. Under the regular in-service program of MAF bridging and pre-master programs, which would be shorter and would allow more technical staff to continue their studies would be elaborated by MAF in cooperation with NUOL and its related faculties.

An up-grading program for Higher Technician to the B. Sc. Program would need to be established in order to up-grade the staff at MAF and PAFS. The bridging program would be short and would allow a large number of Higher Diploma graduates at MAF, PAFS and DAFO to pursue further university education.

In order to accelerate the effectiveness of the bridging program, and to establish higher education for graduates from the Faculty of Agriculture, it is required to establish an institute and graduates programs under the Faculty to implement training, research and extension programs. These graduates would have the capacity as coordinator or facilitator in agriculture and rural development programs at the local level. The emphasis on these programs should be given to farming systems research and extension, and on community based rural development. The rural are surrounding Nabong Campus would be initially set up as a laboratory area for this program. Under these circumstances, proposals for the training and research programs, and the feasibility study on the institute in Nabong Campus will be elaborated for the cooperation with appropriate donor agencies.

In relation to the formation of SMS for MAF Special Pre-Master programs will be established for major subjects at the related faculties and department.. This special program will be made with the coordination of relevant universities and institutions abroad.

8. Vocational Training in Agriculture and Forestry

Few “non formal” vocational training in agriculture and forestry is provided to the labor community in Lao PDR. Nevertheless, under the Ministry of Education there is the Lao-German Basis Program funded by GTZ (GTZ/BAFIS) that is providing vocational training in dressmaking, food processing, tourism and related service, agro-agriculture and livestock farming. The project components consist of the development of trainers, training materials and curriculum development for Non Formal Education Development Centers (NFEDC) which will be established all over the country[9]. The BAFIS/GTZ project has established a comprehensive process for the development of non-formal vocational training in relation to the demand of the local community. The process involves training need assessment and a labor market survey of the community, and design of training program for the target group.

In the context of the master plan, non-formal vocational training for farmers will be developed under the AFTC. In the establishment and development of the Farmer Vocational Schools (FVS) it is important to learn from the lessons of BAFIS/GTZ. One logical practice will be to coordinate the future activities of the FVS with the activities of the NFEDC.

9. Primary and Secondary Education in Agriculture and Forestry

Knowledge about agriculture and forestry is provided in the curriculum of primary education under the subject “world around us”. In some schools, teachers initiated practical exercise in growing vegetables and growing tree seedlings with the help of donor assistance projects[10]. Most of the rural schools are managed by villages under a teachers and parents association with the supervision of the District Education Office. Almost all of rural primary schools do not have enough teachers, teaching materials, lecture books and facilities.

At secondary school level agriculture is taught as a subject. In some districts, due to the lack of teachers and agriculture lecture notes and books the agriculture subject is not taught at all. On the other hands, teachers who teach the subject are lacking knowledge and practical experience in agriculture, thus the teaching is not more that a lecture from books.

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9 The project has presently established 4 Regional NFEC (Vientiane, Louangprabang, Pakse, and Houaphan) by providing local subsidies funds (called revolving funds) that is used in connection with the centers' income-generating activities.

10 I.e. FORCAP, EU Micro Project.

There is no natural environment subject taught at primary and secondary schools. This subject needs to be introduced in the curriculum in order to create environmental awareness to the young generation, especially in the region where slash and burn cultivation is heavily practiced.

The people of Lao PDR have carried out agriculture using a part of favorable natural conditions. It is therefore important to sustain such favorable natural conditions and take special care of environmental sustainability. In this regard, the curriculum in environmental awareness and agriculture subjects of primary and secondary schools located in rural areas should be initiated in a later stage.

Appendix 11
Rural Finance

MASTER PLAN STUDY
ON
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RURAL FINANCE

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RURAL FINANCE

1. Introduction

Rural households are engaged in a range of creative techniques for rural savings but are virtually uninvolved in access to formal and informal depository services. While over 9 out of 10 households had some financial savings, only one percent had depository accounts. At the same time, only 11% of rural households were engaged in any form of borrowing, despite evident needs for working capital. There is therefore a problem of the un-monetized status of the bulk of the rural poor in Lao PDR. The large number of projects has not addressed this problem of the inability of the economy to convert the widely distributed savings into capital as they lack deposit mobilization mechanisms.

In the formal financial sector, the State Owned Commercial Banks (SOCB's) are neither extending large services to the rural areas nor providing products tailored to the needs of the farming population. While most farmers in rural areas had some level of assets for collateral, activities to convert assets into loan security remain extremely limited, with the value of outstanding loans in rural areas averaging only 10% of household physical asset values. Although the Agricultural Promotion Bank (APB) provides loans for agriculture, it has not gained access to many rural areas. In addition, Lao PDR policies on interest rate structures have prevented APB from expanding its depository services.

Donors and NGO's are practicing a range of unsustainable financial activities. Each project has its own largely unsustainable approach to lending. Most of these programs introduce loan interest and deposit rates (if any) that deplete capital resources; include only infrequent activities to generate financial resources by encouraging financial savings deposits and lack monitoring and information management systems for their portfolios. In addition, there is a low level of financial skills and accountability.

The growth of the financial sector provides an opportunity to generate resources for financing the public investment program and to also improve rural living standards.

2. Rural Savings and Non-Institutional Credit

The UNDP/UNCDF Rural Household Finance Survey conducted in 1996 was the first attempt to gain an understanding of the financial practices in urban, rural and semi rural areas. It also provides a comprehensive understanding of the state of savings and loan activities throughout rural Lao PDR and this section draws heavily on the survey findings.

The Household Finance Survey revealed that there is a very broad distribution of savings throughout the rural population of Lao PDR. Savings strategies are both financial and non-financial and about 91% of all households had financial savings, while 92% of all households had non-financial savings (mainly in the form of non-producing livestock and precious metals) and in most cases both types of savings was reported. Non-financial savings are almost exclusively in precious metals and livestock. Precious metals are a hedge against inflation but offer no investment income. Livestock is a more risky form of investment due to the potential for disease but they are a productive asset and could be sold for cash, if necessary. There is a very low level of depository mobilization by both formal and informal sectors and these savings are rarely converted into deposits. The survey also revealed that only 0.6% of rural households held bank deposits, 0.4% is held in informal group deposits, 11% is held in cash, 14% as precious metals and 74% of savings was represented as the net value of livestock. The total rural savings was estimated at about US$ 55.0 million in 1996. The outreach of banks whose branches are few and located in major cities and provincial capitals is very limited. There is also a lack of intermediate rural financial institutions.

An informal credit market finances Lao PDR’s rural sector, like in many other developing countries. The primary source of credit to rural households was family, friends and lending households (33%), especially for those far from roads and more remote areas. The loan size is small with many of the loans for consumption purposes between planting and harvesting and this accounted for almost one half of household debt. Many of these loans do not carry an explicit interest rate and were obtained without collateral for short-term purposes. Most of these loans carried zero interest. The survey found two primary forms of bank loans: to individuals and to groups. Individual loans often required collateral, frequently based on the value of house or land. Group loans are often targeted to poorer households and given to those engaged in some production activity.

Informal institutions accounted for only 15% of lending. Suppliers of inputs and moneylenders are an unimportant source of loans for farmers in Laos PDR. Where they operate, interest charged range from 42-73% per annum. Farmers approach these sources mainly for household emergencies and day to day survival needs. Banks are often located in provincial capitals and are often very distant from most villages. The survey revealed a low level of debt to assets and that 11% of rural households had some form of debt and the debt to assets ratio was about 9.5%.

About 8% of rural households borrowed to buy fixed assets and 13% borrowed for working capital.

3. Village Revolving Funds (VRF's)

Informal and semi-informal institutions also includes a variety of credit schemes and revolving funds based at village level referred to as *Village Revolving Funds* (VRF) and rotating fund groups. These are established through international donors or NGO's. VRF are local village institutions and VRF loans cover about 15% of all Lao PDR rural villages and have grown rapidly in the last ten years. These serve some financial needs but are also socially important. They operate outside the formal financial sector and are not taxed or regulated.

There are about 1,640 FRF's of various types throughout Lao PDR. In general, these locally implemented funds are rooted in some form of financial or commodity (non-financial) lending with a plan for repayment, and support either income generation, food security or improved production for consumption or sale. This is mainly in keeping with the non-monetized nature of the rural economic activity. VRF's are locally managed groups and operate between social and financial organizations.

VRF's are generally financed by donors or NGO's and include over 1000 "rice banks" (mainly from World Food Program (WFP) resources channeled through international NGO's). There are also many 'livestock banks' and revolving credit funds that lend money, set up under integrated rural development projects. In the case of rice banks and livestock banks, the loan is in the form of rice or livestock, the repayment is in the form of cash, yield or calves, repayment may be on full principal, it may be a part or forgiven in the event of a poor harvest or cattle disease.

There is a wide social element in this form of credit. The Lao Women's Union is a frequently used as an intermediary between the village based groups and the larger institutions, donor or NGO. Terms, conditions and other criteria and methods of loan disbursement vary widely from one scheme to another and between donor and NGO operations. The delivery mechanisms vary, but in general, NGO programs and credit funds are provided as a grant to the Lao Government at the provincial level. The provincial government transfers funds to the district level and then to individual VRF's.

VRF's are not conceived or established as self-sustaining commercial financial institutions. The social and economic conditions under which they operate have not considered financial sustainability. They have often been tailored based on the wishes of the beneficiaries and therefore pay little attention to financial viability.

Although they have assisted community development, VRF's do not provide financial intermediation necessary to mobilize domestic resources. They are normally confined to the life of the project and their existence beyond is doubtful. There is little or no financial reporting. Interest rates are well below market rates with a high subsidy element. They are not conceived of as a financial institution and lack the capacity, experience or trained personnel for financial intermediation.

Often, essential structural problems make VRF’s financially unsustainable. Deterioration of their financial positions is a common feature partly because interest rates are below inflation rate and do not cover all costs. Capital depreciation occurs faster if management is poor. Lack of financial reporting and monitoring means, remedial action is difficult because potential losses are not detected at an early stage. Despite these shortcomings, there are some promising VRF’s that are able to reach small borrowers because of their rural location, local ownership and familiarity with village residents. There is a significant need to selectively upgrade VRF’s as potential credit and savings village banks.

The survey also inquired whether existing financial services met the effective demand for credit. In respect of the rural areas, only 5% indicated that it did. The primary reason for taking a loan was to cover emergencies or unforeseen expenditure, while business was the next most important reason.

Table 3.1 Credit and Savings Projects supported by Donors and NGO's[1]

Agency	Description/Purpose	Amount of Funds/Loan
Donors		
World Bank Upland Agriculture Project	Cash crop production for farmer groups	US$ 2.0 m
IFAD Xiangkhouang Agriculture Project	Heifer and Irrigation loans	US$ 1.75 m
ADB Tree Plantation Project	Loans to farm enterprises	US$ 6.0 m
Lao Swedish Forestry Program	Income Generating Activities	290 million Kips
EC Micro Projects Luang Prabang	Several credit schemes	US 650,000
EC Luang Namtha Rural Development	Group loans mainly for women	US$ 14,000
EC Small & Medium Enterprise Project	Credit for small & medium enterprises	ECU 3.2 m
EC Forestry Conservation, Phongsali	Income generation activities	ECU 750,000
EC Livestock & Extension services	Livestock activities	ECU 200,000
EC Lower Nam Ngum Basin Rural Dev. Project	Rural development activities	ECU 500,000
GTZ Xiangkhouang Project	Livestock, crop production, handicrafts	US $ 4,000
CFD Phongsali Development Project	Animal banks	US$ 250,000
CFD Boloven Plateau Development project	Development activities	US$ 250,000
UNCDF Sihom Rehabilitation Project	Household expenses and production loans	US$30,000
CDF Nam Tan Perimeter rehabilitation Project	Mainly for women's income generation	US$13,000
UNDP/UNCDF Small Irrigation Schemes	Income generation activities for women	US$14,000
UNICEF/Lao Women's Union Project	Income generation activities for women	US$ 230,000
UNDCP Drug Supply Reduction in NW Laos	Village development	US$ 41,000
UNDP/UNV Domestic Development Service	Rice banks	US$ 94,800
WFP	Rice banks	US$4.48 mill
NGO'S		
Adventist Development Relief Agency	Rice Banks	US$594,080
Care International	Rice Banks	US$ 2.5 mill
CIDSE	Rice banks, Buffalo banks	NA
Community Aid Abroad	Animal raising, weaving	US$ 28,000
Concern-Lao	Income generating activities	US$43,000
Consortium	Small animals, handicrafts	US$178,000
CUSO	Small animals, gardens	US$13,000
Mennonite Central Committee (MCC)	Rice banks, small animals	US$ 11,000
Norwegian Church Aid	Rice banks, animals,	US$23,000
OXFAM Solidarity, Belgium	Income generating activities	US$33,000
Quaker Service Lao	Animal banks, rice banks	US$70,000
Save the Children, Australia	Animal husbandry, weaving	US$190,000
World Concern	Small animal produce	US$30,000
World Vision	Buffalo banks, Rice Banks	US$1.5 mill per year
ZOA-Lao PDR	Rice Banks, handicrafts	US$2.198 mill

1 Above includes both recent past and current activities.

4. Institutional Credit

There is limited bank outreach in relation to the number of rural households. Banks tend to be fairly uniform in their loan terms and conditions. Interest is charged at market rates except for agricultural loans by APB that are subsidized by government. Banks generally require collateral, most often in the form of land or housing.

The process of expanding credit in the rural areas is not independent of the formal banking system. Banks provide the mechanisms through which rural savings are converted into financial deposits that become the capital base for investment. This process of financial deepening and monetisation are two central components of a sustainable financial (and microfinancial) service sector that can grow independently over the long term. The SOCB's do not operate in the rural areas and have no branch network to service the farming community. Furthermore, the APB has also not successfully penetrated the rural sector as the coverage is limited. The process of mobilization and re-circulation can be met by village banks or credit unions models, but these have yet to evolve.

5. The Banking Sector

Institutional credit in Lao PDR has a relatively recent history and is in its early development stage. In 1986, the New Economic Mechanism and its associated reforms saw changes in the financial sector to move to a market based approach. Key aspects of which were:

i) Establishment of the Bank of Lao PDR as the central bank and the former State Bank branches as commercial banks. Prior to 1988, the State Bank of Laos carried out both central bank and commercial bank functions. The two tier-banking system comprised the Bank of Lao PDR (BOL) and seven State Owned Commercial Banks (SOCB's);
ii) Formulation and implementation of a fiscal and monetary role for Bank of Lao PDR;
iii) Establishment of a prudential and supervisory capacity at BOL;
iv) Establishment of a legal framework for the operation of BOL and the commercial banks.

The formal financial system of the Lao PDR consists of:

- The Bank of Lao PDR (BOL);
- Three State Owned Commercial Banks (SOCB's)(seven prior to 1998, but six of them consolidated into two separate banks);
- One specialized government-owned bank (Agricultural Promotion Bank);
- Two joint venture banks (Joint Development Bank & Vientiane Commercial Bank);
- Branches of several foreign banks.

In addition to the banking network there are about 20 non-bank foreign exchange bureaus, and an insurance company. There are no credit unions or village banks in existence; there have been difficulties with attempted credit cooperatives in the past.

6. The State Owned Commercial Banks (SOCB's)

These commercial banks have now been in operation since 1993 and are in a weak financial position; have limited expertise and staff; and a low level of savings and time deposits. Commercial banking capacity, in particular credit and risk assessment skills, is limited and weaknesses in central banking supervision and accounting standards imply that information on the financial system, especially the SOCB's is not readily available. Lack of transparency, management deficiencies and weaknesses in corporate governance contributed to a decline in confidence. SOCB's have been provided with technical assistance and project loans by World Bank and ADB for a number of years. While some progress has been made, fundamental changes are needed in several areas as follows:

i) Corporate governance of SOCB's;
ii) substantive upgrading of accounting standards and supervision capacity of central bank;
iii) changes in regulatory policy to increase competition.

The BOL continues to play a very close participatory role in all the decisions of the SOCB's including the appointment of managerial positions, the preparation of financial statements and the finalization of annual reports. Amendments to decree No.3 on the Management of Commercial Banks and Other Financial Institutions also provide greater autonomy to the SOCB's. The current status of SOCB's do not equip them to play an effective role in providing credit to the commercial sectors or act as intermediaries for a rural based micro-finance system. There are several reasons for this predicament such as high transaction costs, limited outreach, lack of service orientation, limited commercial banking skills and indirect control of interest rates, all of which limit the formal banking systems ability to support rural financial system development.

A major problem with the SOCB's has been their poor financial position. The Government has been dealing with these through debt reduction of banks with technical assistance from ADB and World Bank since 1996. In 1999, it consolidated the six SOCB's into two banks. Although this merger helped to improve the financial position, several problems remain. A summary of the financial situation of SOCB's is as follows.

Table 6.1 Financial Situation of SOCB's

All SOCB's	Dec. 1995	Dec. 1997	Dec. 1999	Oct. 2000
Capital Asset Ratio to Total Assets	12.24	13.64	13.64	12.20
Loan to Deposit Ratio	83.47	79.23	55.45	55.91
Share of Loans to SOE's	13.05	17.44	23.05	23.53
Non-Performing Loan Ratio	--	60-70	--	40.00

Note: Capital-asset ratio is prior to adjustment of the NPL

7. Agricultural Promotion Bank

The Government of Lao PDR set up in June, 1993 the Agricultural Promotion Bank (APB) by consolidating the agricultural loan portfolios and the staff of three of the seven commercial banks. The Bank was initially set up with capital fixed at Kip 1.0 billion with 80% held by the State and the remainder to be sold to the public. The sale has yet to take place. Its capital including reserves at the end of 1999 is estimated at 9.1 billion Kip.

APB is the main provider of rural finance apart from the bilateral, multilateral donors and international NGO funded projects. It is a specialized government-owned bank, and is reported to serve 11% of all villages containing 14% of all households (about 70,000).

The Bank commenced lending in 1994 and is using group loan methodology with group guarantee as collateral, which was a significant departure from the practice of the SOCB's that required tangible assets. APB's total outstanding loans in 1999 were estimated at 92.0 billion Kip with short-term loans accounting for 60%. Of this, the short-term loans for paddy accounted for 29% benefiting 15% of all villages. Demand for cheaper loans outstrips supply and unsuccessful applicants turn to the informal market. Due to the present branch network and service units of APB, it tends to lend its low cost credit in easily accessible villages and towns along main roads, denying farmers in remote areas of low cost credit.

The depository base of the Bank is quite low (around 40 billion Kip) and most of the resources it on-lends (approximately 80%) are mainly provided by BOL and to a smaller extent by other donor credit lines. These two sources account for over 90% of APB's liabilities and capital. The central bank refinances APB with a 5% spread. Despite a high deposit rate structure, and with 12,000 depositors accounting for 40% of all deposit accounts held in the SOCB's (as reported in the micro finance survey), APB's share of the deposit market is only 2%. APB, the bank with the greatest rural penetration has a very small deposit base comprising only 4.3% of total liabilities and capital. Expansion of the depository base is constrained by the limitations imposed through its rate structure.

The problem of low deposit mobilization among the banks is not only limited to APB. A variety of factors can explain the low deposit mobilization. These include the lack of a fully developed market infrastructure; high transaction costs for financial institutional and depositors/clients, low interest rates on savings accounts; mistrust of the formal banking sector and cultural factors such as *mattress savings*.

Despite its rapid growth in the past nine years, APB is beset with several financial management, loan operations, and loan recovery and business development problems. Resource mobilization is minimal, credit is supply driven and targeted to government-sponsored projects and loan recovery levels are low. Government subsidies to APB are large relative to expenditures on agricultural extension and research.

APB currently provides long and medium term loans at 8% and short term loans at 6-8%, which are all well below the current market rate for these loans of around 16-20%. Subsidized interest rates make loans from other banks unattractive to agricultural borrowers and have a destructive long-term effect on both rural financial and agricultural sectors. It distorts investment decisions and promotes inefficient, non-viable agricultural enterprises. The APB is a major lender of group loans that account for about 30% of its total lending, while individual loans account for about 40%. A better and more aggressive mobilization effort is needed to increase the level of deposits. The low deposit base has increased the APB dependence on BOL PDR and donor credit lines for refinancing which together account for 92% of APB liabilities and capital.

APB has three branches and 18 service units, 4 in the provinces and 14 in districts. It also operates 56 sub-service units located in the districts and has a staff of about 500 located outside of Vientiane. Basic data on APB collections, overdue loans and the coverage of APB activities in provinces and districts is given below.

Table 7.1 Coverage of APB Activities

	Lao PDR Total	APB Coverage	% Coverage
Districts	139	117	84
Villages	11,047	4,885	44
Farmer Groups	13,861	N.A	-
Families	775,755	130,077	17
Hectares	743,000	108,096	15

Source: Lao Agriculture Sector Study. Oct. 1998

Table 7.2 APB Annual Collections

(Million Kip)

Type of Borrowing	1994	1995	1996	1997
1.Short Term < 1yr				
SOE	82	60	1,372	1,770
State-Private Joint	-	-	-	-
Private Enterprise	1,099	3,846	5,412	5,460
Individuals/Groups	3,271	4,475	7,068	7,807
Sub-Total	4,452	8,381	13,852	15,037
2.Medium & Long >1yr				
SOE	2	350	46	226
Private Enterprise	347	810	756	646
Individuals/Groups	496	1,625	1,672	3,156
Sub-Total	845	2,785	2,474	4,024
3.Total Kip	5,297	11,166	16,326	19,061

Table 7.3 Mortgage Value of Bad Debts Overdue Loans (Million Kip)

(Million Kip)

	1994	1995	1996	1997
SOE	84	410	1,418	1,996
State-Private Joint	63	-	-	-
Private Enterprise	1,446	4,656	6,168	6,102
Individuals/Groups	3,815	6,216	8,792	11,003
Total (Million Kip)	5,345	11,282	16,378	19,059
Overdue as % of Collections	101%	101%	100%	100%

8. Micro Finance in Laos PDR

In the absence of adequate formal institutional rural financial services, micro finance institutions (MFI's) can bridge the market gap by transformation of mobilized savings into domestic loans to finance rural and farming economic activity. Micro finance is the provision of a broad range of financial services such as deposits, loans, payment services, money transfers and insurance to the poor and low income households and micro enterprises. This sector is not developed and is a major priority of government. There are a few potentially sustainable micro finance institutions but pilot projects are now starting and are showing potential.

The key features of a micro finance approach include:

- a savings component to accumulate funds for recycling;
- a branch banking system operating on a commercial basis to serve as an intermediary for the micro finance units;
- internal mechanisms for full cost recovery;
- training and capacity building for intermediaries;
- training and capacity building for village groups and borrowers.

Microfinance schemes should preferably also be stand alone activities. Many other activities complement its role as a aid to income generation but these should not be directly tied to activity as the emphasis should be on financial independence of the activity. The microfinance schemes should also place heavy emphasis on institutional capacity building focusing on building strong local and national institutions to provide financial services and also recycle rural savings by strengthening the systems needed to mobilize rural savings into bank deposits.

A small-scale microfinance project (US$7.1 million) jointly financed by the UNDP and UNCDF is being implemented in three provinces (Oudomxai, Xaignabouri, and Vientiane) since 1998. The project aims to develop formal sources of microfinance in these three provinces and has also set up a National Micro Finance Training Center that supports training of staff of participating microfinance service providers. It is expected that the project would extend its activities to other provinces in due course if funding is forthcoming. A summary of the provincial branch activities as on December, 2000 provided by the project team is as follows:

Table 8.1 Summary of Provincial Activities as at December 2000

	June 2000	Dec. 2000	Growth Rate
Number of Clients	1,345	2,026	51%
Number of Borrowers	901	1,629	81%
Loan Amount Disbursed (Kip)	378,090,000	1,201,696,300	218%
Monthly Loan Outstanding (Kip)	144,402,800	566,760,500	292%
Total Interest Collected on Outstanding Loans	60,853,684	165,218,884	194%
Net Savings	37,500,628	81,166,616	116%

Source: UNDP/UNCDF

9. The Role of Lao Women's Union in Rural Finance

The Lao Women's Union (LWU) is a government sanctioned mass organization operating under the Ministry of Foreign Affairs. The President of LWU is equivalent to a ministerial position in Government. LWU operate in every village in Lao with a membership of 650,000. The LWU has been involved as an intermediary and government partner in the credit components of many rural development projects. Unfortunately there has been no access to any evaluation of the LWU performance in the area of credit disbursement and recovery or savings mobilization. Being a quasi government institution it may be required to follow government policy on interest rates and loan terms and conditions.

LWU has worked with several international organizations to manage VRF funds, food banks, cattle banks and even medicine banks. Many of these VRF's require no collateral and provide group loans. Most of these VRF's have faired poorly in terms of loan recovery and have subsidized interest rates. As such, these credit operations have not been evaluated and are largely not sustainable and terminate either through depletion of loan funds or closure of the donor funded project. Experience with the role of the LWU as Accredited Agent in the Micro finance Project in one province has not been favorable up to December 2000.

10. General Issues on Overall Formal Financial System

Some general issues that require to be addressed as an overall plan for restructuring the commercial banks and APB are outlined below:

Banks are in weak financial position; have limited knowledge and experience in commercial banking operation and have low levels of savings and time deposits;

- Staff deficiencies show in poor management and accounting systems, credit risk evaluation, appraisal of borrowers, cash flow analysis;
- Savings and resource mobilization need to be improved;
- Lack of on-the-job training for bank personnel, at all levels. Retail level institutional capacity is highly inadequate to provide the necessary services to a large segment of rural households and enterprises.
- Government subsidies for agricultural credit, thus resulting in budget deficits and inflation;
- Lack of an institutional framework for non-bank intermediaries;
- Reforms required to drastically change APB policies and operations;
- Legal structures for bank transactions, contracts, collateral and securities are incomplete;

Non-performing loans are eroding the capital base of SOCB's.

11. Previous Assistance for Reform of the Banking System

Since the introduction of the two tier banking system in 1988, the ADB has been closely associated with the reform of the financial system and has made many project loans and provided 16 financial sector related technical assistance grants. The first technical assistance grant was in 1988 and the First Financial Sector Program Loan was in 1990. This loan for US$25.0 million was to help establish the two-tier banking system and to create a basic framework for a market oriented financial system. It helped in the re-capitalisation of the SOCB's and improve credit management and the prudential and supervisory work of the SOCB's. In 1993, ADB provided institutional support technical assistance to assist APB to take over the loan portfolio of the SOCB's and strengthen APB's capacity to deliver agricultural credit. In 1994, the World Bank, through an Upland Agriculture Development Project where credit was provided to farmer groups to promote cash crop production. In the same year the ADB also assisted in micro enterprise credit through technical assistance to develop commercial bank linkages to micro and small enterprises through a project for two SOCB's. IFAD and ADB followed in 1994 through cattle and irrigation loans through APB in the

Xienhuong Agriculture Development Project and the Tree Plantation Project respectively.

In 1996, the ADB provided the Second Financial Sector Program Loan for US$ 25.0 million and also Technical Assistance for Restructuring and Consolidation of SOCB's. Under the Loan, two new banks were established as a result of the merger of six smaller banks while the largest SOCB was also being restructured and reorganized. The SOCB's were also corporatised and their ownership transferred from BOL PDR to the Ministry of Finance. The World Bank provided a loan in 1998 to enhance BOL PDR capacity to supervise and regulate SOBC's and to improve the operational performance of the SOCB's.

In 1998, the UNDP/CDF set up the Micro finance Project to provide capitalization funds for emerging credit and savings institutions and for setting up a target 800 village credit savings groups. The project also set up a Micro finance Training Center to train in micro finance. In 2000, ADB provided technical assistance for Rural Finance development, in particular to (1) support sustainable rural finance development; (2) assist APB to build capacity to expand its outreach; and (3) carry out a diagnostic study of all APB operations and make a set of comprehensive recommendations covering all aspects of APB operations.

Appendix 12
Marketing and Agro-Processing

MASTER PLAN STUDY
ON
INTEGRATED AGRICULTURAL DEVELOPMENT
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MARKETING AND AGRO-PROCESSING

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CHAPTER 1 MARKETING

1.1 Marketing of Rice

In Lao PDR, the rice is not sold as milled rice but as paddy from the farmers. The State Food Stuff Company and/or the private middlemen visit the farmers and purchase paddy. Paddy is stored and milled as necessary before shipping to the market, or supplying to hospitals, military troops, police stations, and governments officers. The amount of paddy supplied to the market is estimated at 110,000 tons that correspond to about 5 % of production (223 million tons harvested in 2000). The State Food Stuff Company collects 70 % of the share of the paddy and the private middlemen collect the remaining 30 %. This is because that the State Food Stuff Company purchases paddy from producers with the government policy in order to maintain the adequate rice price, and has large collection capacity instead of storages and rice mills.

The quality of rice is ranked at the milling stage, and then the rice is shipped to the market. The glutinous rice on the market is divided into three grades from 1 to 3. Each rank shows the difference of quality from grades 1 to 3. They have clear difference in the grain shape, ratio of the broken rice mixed, tone of the color, and the ratio of the mixed foreign articles. The non-glutinous rice is also divided into three grades from 1 to 3 and the difference of quality is similar to the glutinous rice.

1.2 Marketing of Other Agricultural Products

Coffee is a small commercial crop in Lao PDR. About 15,000 tons is produced annually at present. In 1999, Lao PDR exported 14,300 tons of coffee to the European and Singapore markets. Its export price is 10 % lower than the international market price due to poor quality and limited supplies. Poor quality is mainly caused by bad husbandry, early harvesting and manual harvest processing from screening to drying. Middlemen, member of the Laos Coffee Exporters' Association having their headquarters in Pakse, Champasak Province, are engaged in the export of Laotian coffee beans. As for other food crops, besides rice and vegetables, traders buy them directly from farmers and usually sell them to the retailers.

1.3 Marketing of livestock and Fishes

(1) Cattle, buffalo, and pig

Live cattle buffalo and pigs are collected from farmers by the State Foodstuff Company or individual middlemen and transported to slaughterhouses. In many cases when farmers need meat, they slaughter the livestock in the village or sometimes they take the livestock directly to slaughterhouse. The State Foodstuff Company and individuals sell the meat to the retail market, hotels, restaurants, hospitals, armed forces, and police agencies. According to the 1999 official statistics, more than 13,000 buffaloes and cattle were exported to Thailand as live animals. However, it is reported that the figure shows only a part of the actual export, and larger amount is exported illegally (with an estimated number of 100,000). The official number of exported pigs is less than five hundred, but the illegal number is estimated to be considerably larger. Such illegal trade should be curtailed in order to prevent the spread of epidemic diseases.

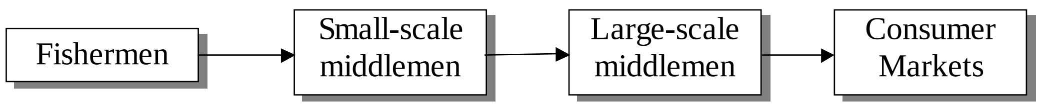
(2) Poultry

Poultry are directly slaughtered by traders or farmers. The traders sell them to retailers, and poultry slaughtered by the farmers are taken to the local market by farmers. Processed poultry meat is sold in the markets without any food inspection.

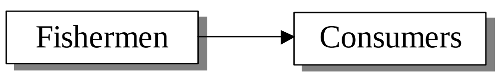
(3) Fish

Fish may be sold fresh or processed (sun dried, smoked, or processed). It can be sold through traders or directly by fishermen. For example fish from Nam Ngum Lake may be distributed through the following three channels:

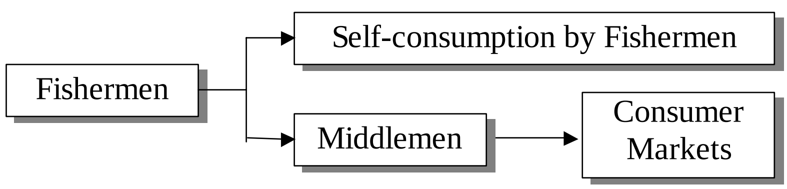
(i)



(ii)



(iii)



Small-scale traders buy fish from the fishermen around Nam Ngum Lake. As many fishermen borrow operating funds for fishing equipment and fuel from these small-scale traders, the selling price is controlled by them. However, these small-scale middlemen are obligated to sell the fish to large-scale middlemen based at the Nam Ngum dam site, called "Monopolized Landing Platform". This is because the small-scale traders borrow fuel and ice for cooler boxes, etc, from the large-scale traders. Therefore, in fact, the selling price is controlled by the large-scale middlemen. Because the large-scale middlemen control the market channels at the production site, the fish price at these production sites are not always linked to market prices.

1.4 Marketing Facilities

Agricultural products collected from the growers by the State Foodstuff Company and individual traders are usually sold to consumers via storage and milling facilities. However, almost all the storage facilities are of wooden structure and not equipped with ventilation or air-conditioning. Therefore, the quality, of paddy tends to deteriorate along with damage caused by rats and insect. There are two types of rice processing machine, one shells and mills the paddy simultaneously and the other mills after shelling. The former type is prevalent in Lao PDR, and its milling yield is low. Milled rice is mixed with rice bran. Although the rice bran is an important feed material for livestock, digestive and nutritious level of the mixed rice husk bran is low. Such mixture of the bran and the husk hampers oil production.

There are no marketing facilities, such as product collection, pre-cooling, grading, and storage, for agricultural products other than the paddy. All such products are directly shipped to the market after the harvest. Cattle and pigs are shipped to the market through slaughterhouses. However, the slaughterhouses are very primitive and lack sanitation, equipment and safety measures. In addition, slaughterhouses are not equipped with cooling facilities and the carcass meat is sold without being ripened. The meat should be inspected according to the regulations, but slaughterhouses have neither the facilities for inspecting intestines nor laboratories. At present, there is no system for proper meat inspection in Lao PDR. This should be improved quickly the food hygienic viewpoint.

There are 444 retail markets in Laos at present. At the centers of provinces and districts, there are 161 markets, among which 88 markets are managed by the government. There are 283 markets at village centers of village, among which 22 markets are managed by the government. There are about 11,000 villages in Loa PDR at present having 444 retail markets in total. Only 4 % of the villages has the retail markets on the average. Furthermore, villagers have no means of transport and poor access to the market (as shown in Table 1.4.1). These are points to be improved for the future. None of the markets handling the fresh foods has the cooling facility or the showcase. Thus, the products are arranged and sold on display stands, which is not favorable from the sanitary viewpoint. Such situation is caused by the facts that the amount of the products handled is small, the products are distributed in a limited area, and both the distributors and consumers are not much interested in the quality.

1.5 Marketing Information

There is no organized market information system available for the producers at present. In addition, there is no information service by newspapers, radio, or television. The only source of market information is the middlemen including the State Food Stuff Company. However, the middlemen try to purchase the agricultural products at the lowest price. Thus, there is a large gap between the farmers having no market information and the middlemen. Because of this kind of difference between standpoints, the middlemen always control the agricultural market, and the farmers cannot negotiate the price with the middlemen. As the wholesale market is not prepared yet, proper pricing is difficult.

At present, prices of farm and livestock products are mainly decided in regional cum self-supportive market. For example, the highest farm gate price of paddy was 1,005 kip/kg in Vientiane Mun., while the minimum was 605 kip/kg or 66 % of the highest in Saravan, in the southern region. As for livestock products, the farm gate price of beef cattle was the highest of 15,185 kip/kg in Vientiane Mun., while in Houaphan, in the north-eastern region under poor access condition, they were dealt with at a rather low price of 2,683 kip/kg or one-third of that of Vientiane Mun (as shown in Table 1.5.1 (1)-(6)). Having little public information on the production, shipping and consumption, price analysis can hardly be done, however it is generally considered that the more products flow to the market of higher prices and demand. In the above-mentioned case, such a principle is not applied. In addition to such regional and self-supportive production system, the distribution of the products is furthermore restrained by high transportation cost, lack of adequate market information, taxation to between districts, and licensing for the marketing activities. As for rice-market, dealing share of the State Food Stuff Company occupies a high rate of 70 %, however, it is not clarified how the high share affects the prices of the products. It is considered that the prices are highly influenced by the high share. Similar condition is considered for the meat products. The production of farm and livestock products will be expanded largely toward the year 2020. It is necessary to establish a system to decrease the huge regional discrepancy of prices and to distribute the acquired profit equally at each stage. For this, improvement of; i) the wholesale market which would contribute to adequate dealing prices (not only for perishables but for processed ones), ii) institutions for collection and shipping, iii) marketing facilities, iv) collection and distributing system on the market information, v) transport access, and abolition of various regulations, are required. Improvement of retail markets dealing with the perishables is also important.

However, in the future, the country will go through, as other countries experienced, development of tertiary industry and urbanization, and development of agro-processing industry which will accelerate formation of the production areas, as the economy develops and matures. Such changes will bring impact to promote mass consumption and distribution of commodities in both domestic and overseas markets responding to such phenomena. Accordingly, as the market responds, the economy would be activated through such wide-spread distribution or trade of the commodities.

For promoting these, problems on; present transport system which is the bottleneck for smooth distribution, various taxation in the distribution of the materials between provinces, and licensing for the distribution business should be improved.

Another important issue is provision of accurate and prompt communication system on the market information, which should include collecting and distributing system of the market information on not only the prices but also on the volume of production and forwarding at the production area (raw materials and processed products), production volume by item, prospect of forwarding volume of each commodity with its quality. Training for the producers and distributors who receive the above information is also required for let them analyze such market information properly.

1.6 Present constraints and establishment item.

Wide area market over the country has not been facilitated yet except for some products such as fish and fruit, due to circumstances that; i) the market of the agricultural and livestock products in Lao PDR is formed under self-consumptive production in individual and region-wise scale, ii) limited market for supporting large consumption in the densely populated areas, iii) poor transport network, iv) high marketing cost, vi) taxation against inter-provinces distribution of products and materials, and vii) constraints on licensing for the distribution business. Markets are formed in small areas independently because of lack of; organizations for collection, forwarding and wholesale, marketing facilities, and system for collection and provision of the market information. However, it is prospected that the wide-area market and distribution of agricultural and livestock products would be activated in accordance with development of the domestic economy along with the tertiary industry, progress of urbanization, diversification of consumers' needs, development of agro-processing and marketable crop production. Accordingly, the distribution of the agricultural and livestock products and their processed goods would be changed. Economic activities should be promoted by improving of such market circumstances. Necessary improvement is itemized in the following:

- improvement of lateral roads and rural roads,
- improvement of information system (collection and distribution) on the market,
- improvement of the communication system on the production areas,
- establishment of collection and forwarding organization for the agricultural and livestock products, and development of related facilities (establishment of organization of joint shipping)
- development of post-harvest processing technology taking the wide-area distribution and export into consideration,
- establishment of standard and quality-based classification system for the agricultural and livestock products,
- establishment of food hygiene and testing methods (including for imported products),
- establishment of hygiene and testing system for fresh foods,
- establishment of wholesale market institutions and facilities,
- review and rationalization of laws and regulations on agricultural development,
- improvement of licensing system for the distribution business and regulations on the distribution such as taxation against the inter-district distribution,
- improvement of domestic carriage system,
- promotion of development of distribution centers and facilities,
- promotion of agro-processing industry including development of goods and market, and
- development of facilities for the agro-processing.

CHAPTER 2 AGRO-PROCESSING

2.1 Post harvest

In general, post harvest processing of the paddy rice is not well organized. The most important processes in the post-harvest processing are drying and storing, which are conducted at the beginning of the dry season by natural drying after the wet season cultivation. However, the dry season cultivation, whose harvest is carried out at the beginning of the wet season, requires machine drying to some extent. The rice processed by the natural drying is once stored in the farmers' traditional home-made storage, then milled as required.

Middlemen for the rice (state food stuff company or private middlemen) buy the stored rice from the farmers, then store it in their storage facilities. Losses during the storage are quite high in both the farmers' and the middlemen's storages, due to lack of air conditioning required for keeping quality of the stored rice, and/or damages by rats and insects. It is economically difficult to improve the individual storage facilities of the farmers. However, once a joint-collecting and forwarding system of the farmers is established, such problems on the storage may be improved.

Improvement of the storage facilities of the middlemen seems to be more feasible in terms of their scales and numbers. Such improvement would play a significant role in order to realize supply of good-quality rice and to reduce the losses during the storage.

Crops other than rice are also stored without proper post-processing treatment. Vegetables are forwarded to the markets for sale immediately after harvesting. Coffee is produced in three main districts in the south, namely, Saravan, Xekong, and Champasak. In 1999, 14,000 tons of coffee was exported to the European countries and Singapore out of 15,000 tons of production. However, the export price of the coffee remains low due to its low evaluation in the international market. It is mainly because of its low quality caused as a result of poor and manually-handled post-harvest processing such as harvesting, sorting and drying, and its small supply volume to the market. Thus, improvement of the post-harvest processing and increase of production for the international market are required for the coffee.

Livestock for meat production is purchased by the middlemen from producers (farmers), then sent to slaughtering yards for processing. Most of the meat is consumed as fresh meat.

Middlemen for fish do not have cold storage facilities. In general, they buy the unloaded fish from the fishermen, then forward them immediately to the markets. Fish unloaded at the Namngum Lake are forwarded with ice to Vientiane Mun and/or northern districts. Temporary storage with ice is not generally practiced in the fisheries for self-consumption because of difficulties in getting the ice. Aquaculture for the self-consumption is mainly conducted only in the wet season, and the fish are preserved in a traditional manner. For short period, they smoke or grill the fish, while for long period, they dry, salt, or ferment the fish or process to fish sauce.

Thus the post-harvest processing of agricultural and livestock products in Laos is oriented to the self-consumption, and most of the products are forwarded to the market without any processing partly due to lack of wide-spread marketing system.

It is considered that the importance of the post-harvest processing would greatly increase as production areas and wholesale market develop along with the wide-spread market system. The post-harvest processing of fresh foods, in particular, would play a significant role in keeping their freshness and improving their commercial values.

2.2. Agro-processing

According to MIH (Ministry of Industry and Handcrafts), in 1997 the number of factories are 15,931 and among them 14,652 are small-scale (less than 10 employees). The large-scale (more than 100 employees) are 119 that correspond only 0.7 % of whole factories (as shown in Table 2.2.1). The number of medium and large-scale agro-processing factories related to agriculture and livestock are seventy-four. The most important part of them are fifty-eight factories for manufacture of drinking water and ices (including ice cream), which account for 80 % of the entire factories. Eleven are primary food processing factories of agricultural products excluding breweries, seven are rice-mill factories and one each is feeds manufacturing, sugar manufacturing, and cigarette (to dry leave tobacco) factory (as shown Table 2.2.2). The amount of agriculture processing goods production is shown bellow.

The amount of agriculture processing goods production

(Unit: ton)

Kind of food	1994	1995	1996	1997
Coffee	9	10	112	139
Meat	2,814	2,827	3,000	3,620
Fish	280	280	280	461
Rice	546	516	512	505
Vegetable & Fruit	-	-	-	335
Sugar	-	145	189	205

Source: Ministry of Industry

The above table shows a slightly increasing tendency of the agro-processing products beside rice. However, meat products shown in the table are mostly of carcass meat production at the slaughter yards, and the rice is “milled rice”. These products are both from processing of raw materials. Beside such products, productions of agro-processing commodities still remain small without proper agro-processing systems. Though number of small factories for agro-processing is not available, substantial number of family-operated processing shops are supposed to exist. There are several small processing shops dealing with vegetables and fruits in Vientiane Mun as outlined below:

(1) Lao Farmers’ Product Factory

Fruit products such as juice, jam, candy, etc. are mainly produced. Eighty percent of the products are exported to the European countries (Germany, France, etc.). Materials such as tamarind, pineapple, raspberry, banana, orange, grapefruit, passion fruit, etc. are collected from the farmers.

(2) Lao Agro Industry Co., Ltd.

Sixty percent of vegetable products (boiled plain, candied fruit, pickles, etc.) are exported to the United Kingdom, the USA, Poland, etc. Pickles of sliced ginger were exported to Japan in 1997 and 1998. Materials are bamboo, garlic, mango, ginger, baby corn, etc. which are collected from the farmers in the neighbor. Part-time employees are hired for the peak harvesting season of the bamboo to process 600 tons of raw materials.

Both factories pay due attention to quality control and food hygiene of the products. The factories are operated for 300 days a year.

It is reported that there exist a number of small processing facilities for livestock products. Results of survey on a typical family-operated processing shop are as follows:

The shop located along the Mekong River at Pakse is operated by two of the family member (husband and wife). Sausages and meat balls are produced from pork meat, fat, skin, tendon and intestine which are purchased at the market. Facilities used are a motor of 1/4 PS, meat choppers and mixers. The products are sold at the market near by. Some customers come from Thailand, on the opposite side of the Mekong River.

The shop is operated every day with good sales. Quality of the products is also good even having some room for improvement in selection of the materials, cold storage for the products and hygiene. It is also required to diversify kinds of the products (ham, bacon, etc.) and to improve method of processing such as smoking, to some extent. Certain possibility is considered even for these small processing factories to expand and promote their market channels by introducing quality control and standardizing of the products, and by applying joint operation for a unified brand.

The processing of the fish is not conducted either, except household industry, which produces and provides dried fish, fermented fish, fish sauce, etc. These fish products also have possibility to expand the market channel by introducing the unified brand as livestock products.

In Lao PDR, the fish sauce and fermented foods are taken daily, and their total consumption is estimated very big. However, imported Thai fish sauce made from marine fish prevails the Lao products in the market because of its better taste. Improvement of the taste should also be an important subject.

As for handicraft industry sector, traditional products such as silk, cotton, bamboo work, etc. enjoy increasing demand as souvenirs for foreign tourists in recent years. The silk products, particularly dyeing using natural plant stuffs, appeal to the tourist with its simple but luxurious atmosphere. Such silk products can be produced by using extra time between farm works, and are valuable cash income for the farmers. However, domestic supply of the sulk yarn, material of the silk products, is in short, and they have to rely on the imported materials from Vietnam and Thailand. Profit is subject to the prices of materials which largely fluctuate. Thus, production of raw materials in the country with stable supply is considered a key issue for the sector.

Household industry is predominant in the processing of agricultural, fish and livestock products in Lao PDR at present. Introduction of large scale processing industry is constrained by difficulty in stable supply of materials through a year. Such large scale processing industry should be considered in parallel with development of the market for the products and formation of the production area of the raw materials. For the time being, small scale and rural agro-processing industry, which has been getting operated, should properly be promoted.

In this case, due consideration should be made on diversification, standardization and hygiene of the products.

CHAPTER 3 MARKETING AND AGRO-PROCESSING DEVELOPMENT

3.1 Development Objective

The major objective in agricultural marketing under the proposed Action Plan is to provide for an enabling market environment so that producers, consumers and the agribusiness community could make decisions within the framework of the market economy. This objective is to be supported through provision of facilitation and regulatory services and market information to assist in free and open competition, transmission of market signals and exchange of goods and services and thereby increase internal and external trade.

The major objective in agro-processing is; i) to improve quality and reduce loss of agriculture products through proper post-harvest activities including collection, sorting, storing, drying, packing transporting etc., and ii) to add more value of agricultural products through agro-processing activities.

The critical factors influencing the achievement of this objective are the provision of facilitation services for movement of produce and the removal of controls and regulations that hinder the free and easy movement of goods and services.

As outlined in the Government's Strategic Vision for Agriculture, the sloping lands lack market access and the majority of farmers do not market their produce due to the lack of access roads and other basic facilities. In order to meet this goal, in the short term, the major objective is to provide for market access, both in domestic and foreign markets, so that producers could exploit market opportunities that have been constrained by lack of facilities. Also in the short term is the objective of providing market information so that producers, consumers and the agribusiness community would be better informed of market potential and opportunities.

In the longer term, the goal would be to provide the facilitation and regulation necessary to reap economies of scale through grading, standardization, and standardized packaging, and in conforming to international standards in hygiene and health regulations. The objective would be to improve marketing of perishable commodities, facilitation of agro-processing and input marketing and exploiting the potential for increased market share in the production of goods and services in the Mekong Corridor area following conformity with AFTA guidelines for freer trade.

3.2 Development Strategy

The major strategy for achievement of the objectives for agricultural marketing would be through provision of better market access, market information and services, removal of market distortions and provision of facilitation and regulatory services, where necessary in the interest of trade and market expansion.

The strategy would be pursued through actions on three main fronts namely through provision of market access roads, especially in the sloping lands and more remote rural areas; provision of market information; and setting up grade and standards to enhance marketability and product unseen trading. These approaches would be pursued sequentially during the period of the Action Plan.

The strategy of agro-processing would be through provision of technical training, rural credit for purchasing equipment and establishment of facilities, and formulation of group activity at community level. Those support services will be provided through various crop promotion programs as well as Village Led Agriculture Development Initiative Program. In addition, training for agro-processing will be made in farmers' vocational schools to be attached in Regional Agriculture and Forestry Training Centers as well as Post-Harvest and Agro-Processing Technology Center.

3.3 Implementation Process

The implementation emphasis would be primarily of improvement of the farm to market road network. For the majority of rural families the nearest access road is 6 kilometers away. It is estimated that 12,000 kilometers of rural roads would be rehabilitated and 7,200 kilometers of new roads would be built under the Action Plan. The phasing of the program would place an increased emphasis on new road construction in the period 2001-2010 based on the criteria of the distance of population from the nearest road access. This program is shown under the section on rural development although these are largely market access roads. Farm to market roads are given emphasis because of the need to provide market access for many farm households that remain subsistence oriented mainly due to the lack of market access.

The plan also provides for setting up of a commodity market intelligence system as short term strategy. There is some preliminary work currently being undertaken under donor assisted technical assistance to study the framework for such a facility. The system would use the media for transmission of commodity information, especially price and volume information to inform producers, traders and processors of the availability, location and prices of farm produce on a daily basis. The market information system would set up a network for collection of price and volume data from various production, wholesale and retail points. The system would also monitor and report on trade in agricultural products across national boundaries and provide information on volume, product specifications and prices of commodities traded internationally.

Also, in the short term, it is proposed that a start is made on the establishment of product grades and standards for livestock and agricultural produce. Such a system would enable and enhance export competitiveness as well as facilitate the sale of agricultural produce. In particular, such a system when well developed should enable sight unseen trading both nationally and internationally.

In view of the comparative advantage as well as the overall competitive position of several commercial crops, a project has been scheduled for early in the Action Plan to study the potential market, especially export market for a range of agricultural commodities such as tropical seasonal fruits and vegetables. The project would also provide a facility, based on these studies to provide technical advice to potential producers as well as advise on markets and marketing of produce.

Non timber forest products have become increasingly important as a source of export income and the potential exists for a sizeable expansion in production and export of NTFP. The promotion of NTFP should also be looked upon as a source of supplementary income for the rural people. Although NTFP production has increased, no detailed study has been undertaken to assess the potential for such products. A project has been included to study the market potential for NTFP in both domestic and international markets. Such a study would also examine the potential for processing and value added activities.

The Action Plan also provides for setting up a facility as the long term strategy for assisting in community based agro-processing activities by carrying out a survey of raw material and processing and market potential as well as profitability of such activities. It would also provide training to the rural community in agro-processing activities with potential with a view supplementing incomes of rural families. It is proposed to link this agro-processing activity with the micro finance project and provide credit facilities for rural communities with potential for starting agro-processing activities. There is also a proposal for assisting farmers in group farming for purchase and sale of agricultural inputs and outputs so as to realize greater bargaining power and better market prices. The Action Plan also provides for establishing a Food Hygiene Standards and Inspection System with equipment for testing, training of staff in food hygiene standards and an inspection system that would also extend to quality control checks for food processing facilities.

Several agro based value added activities have the potential for development but there is a lack of technical knowledge of the potential, the equipment, the machinery and raw material. small business enterprises need to be assisted through provision of information on processing and post harvest activities. Small business enterprises can also be provided with information as well as feasibility studies on various agro processing activities, provide information of markets and sales and market assessments and even assist entrepreneurs by finding buyers for products in both domestic and export markets. A small business Enterprise Center is proposed under the Action Plan in the long term strategy to provide these services to small enterprises

3.4 Expected Results

The major impact is expected from the construction and rehabilitation of rural roads. The rural road improvement program would open up the rural areas, provide a market for surplus farm produce and for purchase of inputs and provide incentives for increased production. The road program would also provide easier access to social amenities such as education and medical services.

The market information system should provide better market information that should assist producers, processors and consumers with better decision-making and price signals. Better market information should also provide better market and price forecasting and perhaps increase market power of the farmers in rural areas.

The technical training on post harvesting and agro-processing and micro-finance will create several agro based value added activities and, as a result, the farm income and rural economy will be improved and stabilized.

Table

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Table 1.4.1 Statistic of Prefecture, Province, District and Village market

No	Province name	Year 1998						Year 1999						Year 2000						Year plan 2001					
		Prov & district market			Village market			Prov & district market			Village market			Prov & district market			Village market			Prov & district market			Village market		
		State	Collectif	Private	State	Collectif	Private	State	Collectif	Private	State	Collectif	Private	State	Collectif	Private	State	Collectif	Private	State	Collectif	Private	State	Collectif	Private
1	Vientiane Prefecture	-	-	-	-	-	-	-	-	-	-	-	-	12	-	17	2	-	30	2	-	-	-	-	-
2	Louangnamtha	4	-	-	7	-	-	4	-	-	7	-	-	4	-	-	7	-	-	-	-	-	-	-	-
3	Phongsaly	-	6	-	-	-	-	-	7	-	-	-	-	-	7	-	-	-	-	1	-	-	-	-	-
4	Saiyaboury	21	-	-	-	-	-	21	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-
5	Oudomxay	8	-	-	-	13	-	8	-	-	-	13	-	8	-	1	-	-	13	-	-	-	1	-	-
6	Bokeo	4	-	-	3	10	4	5	-	-	4	10	6	5	-	-	4	9	6	1	-	-	-	1	-
7	Houaphane	-	-	8	-	-	37	1	1	9	-	-	45	1	1	9	-	-	61	-	-	-	-	-	12
8	Xiengkhouang	8	-	1	-	24	-	8	-	1	-	25	-	8	-	1	-	27	-	-	-	-	-	6	-
9	Louangprabang	9	1	1	1	50	-	9	1	1	1	50	-	10	6	-	5	38	-	1	-	-	1	-	-
10	Vientiane Province	1	-	9	2	-	14	1	-	9	2	-	14	1	-	9	2		15	-	-	-	-	-	5
11	Saisomboune	-	-	-	-	-	-	3	-	-	-	3	-	-	-	-	-	1	-	2	-	-	-	-	-
12	Bolikhamsay	2	4	-	-	8	-	2	4	-	-	8	-	2	4	-	-	8	-	2	6	-	-	3	-
13	Khammouane	5	1	3	2	1	-	7	-	3	2	-	-	7	-	3	2	-	-	-	-	-	-	-	-
14	Savannakhet	-	-	32	-	-	-	-	-	32	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-
15	Champasack	-	-	12	-	-	16	-	-	12	-	-	16	-	-	12	-	-	16	-	-	4	-	-	-
16	Salavanh	4	-	2	-	-	-	3	-	3	-	-	-	3	-	3	-	-	-	-	-	1	-	-	-
17	Sekong	4	-	-	-	1	-	4	-	-	1	-	-	4	-	-	-	1	-	1	-	-	-	4	-
18	Attapeu	2		-	-	4	-	2	-	-	-	4	-	2	-	-	-	4	-	-	-	-	-	-	-
	Totaux	**72**	**12**	**68**	**15**	**111**	**71**	**78**	**13**	**70**	**17**	**113**	**81**	**88**	**18**	**55**	**22**	**88**	**173**	**10**	**6**	**5**	**2**	**14**	**17**

Source: Ministry of Commerce and Tourism with Mr. Sengdeth at Interrior Commercial Department

Source: Commercial and Tourism Division in the Lao PDR

Table 1.5.1 (1) Farm Gate Price by Provinces

(1) All rice paddy (Unit: Kip/kg)

Code	Name of province	Year					
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	163	175	218	467	914	1 014
2	Louangnamtha	123	148	165	419	815	781
3	Oudomxay	147	151	209	444	825	711
4	Bokeo	119	-	-	596	993	-
5	Loungphrabang	159	162	205	556	844	891
6	Houaphan	174	155	174	-	699	1 076
7	Xaignabouri	173	175	240	532	948	884
	Centra Region						
8	Vientiane Mun.	168	197	278	576	1 005	-
9	Xiangkhouang	167	184	210	543	952	805
10	Vientiane	154	196	248	486	749	718
11	Borikhamxai	159	195	249	481	881	-
12	Khammouan	134	197	265	474	770	768
13	Savsnnakhet	124	182	240	353	751	830
14	Xaisomboun	156	-	-	-	-	1 020
	Southern Region						
15	Saravan	127	174	277	454	605	912
16	Xekong	136	209	291	439	667	-
17	Champasack	134	182	250	382	758	-
18	Attapu	98	124	184	304	707	613
	Average	143	175	230	477	788	855

Source: Statistical Division Department of Planning. MAF

Table 1.5.1 (2) Farm Gate Price by Provinces

(2) Non-glutinous rice paddy (Unit: Kip/kg)

Code	Name of province		Year				
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	162	177	219	464	936	1 014
2	Louangnamtha	129	155	176	415	820	798
3	Oudomxay	152	157	214	415	814	744
4	Bokeo	127	-	-	625	1 007	-
5	Loungphrabang	160	161	207	561	861	893
6	Houaphan	144	155	193	-	703	-
7	Xaignabouri	180	183	246	551	962	859
	Centra Region						
8	Vientiane Mun.	172	202	279	604	910	-
9	Xiangkhouang	169	189	219	548	1 018	818
10	Vientiane	171	218	275	477	788	740
11	Borikhamxai	175	208	262	492	948	-
12	Khammouan	141	208	272	381	797	831
13	Savsnnakhet	129	187	248	355	783	879
14	Xaisomboun	164	-	-	-	-	1 123
	Southern Region						
15	Saravan	131	169	291	461	628	971
16	Xekong	145	214	298	461	650	-
17	Champasack	142	199	264	410	847	-
18	Attapu	95	122	181	300	695	600
	Average	148	183	239	485	804	881

Source: Statistical Division Department of Planning. MAF

Table 1.5.1 (3) Farm Gate Price by Provinces

(3) Glutinous rice paddy (Unit: Kip/kg)

Code	Name of province		Year				
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	164	172	218	470	901	1 014
2	Louangnamtha	119	141	156	423	814	763
3	Oudomxay	142	146	204	437	836	678
4	Bokeo	112	-	-	567	978	-
5	Loungphrabang	157	163	203	551	827	889
6	Houaphan	175	155	174	-	695	1 076
7	Xaignabouri	166	169	237	513	934	899
	Centra Region						
8	Vientiane Mun.	166	191	276	548	1 084	-
9	Xiangkhouang	165	181	202	537	902	797
10	Vientiane	146	184	245	494	727	697
11	Borikhamxai	144	188	240	461	813	-
12	Khammouan	127	189	260	471	745	736
13	Savsnnakhet	120	179	237	356	720	774
14	Xaisomboun	147	-	-	-	-	918
	Southern Region						
15	Saravan	124	176	267	450	591	855
16	Xekong	127	204	284	418	683	-
17	Champasack	128	171	242	358	681	-
18	Attapu	102	126	187	308	719	625
	Average	138	171	226	469	779	830

Source: Statistical Division Department of Planning. MAF

Table 1.5.1 (4) Farm Gate Price by Provinces

(4) Buffalo (Unit: Kip/kg)

Code	Name of province	Year					
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	922	1 160	1 081	1 677	5 137	10 755
2	Louangnamtha	857	1 126	1 174	2 191	5 472	5 220
3	Oudomxay	675	1 038	1 137	2 000	5 973	11 000
4	Bokeo	969	-	-	3 315	9 014	-
5	Loungphrabang	869	1 256	1 298	2 526	6 479	9 475
6	Houaphan	797	1 166	1 204	-	3 204	6 976
7	Xaignabouri	1 139	1 666	2 955	3 288	9 869	12 917
	Centra Region						
8	Vientiane Mun.	959	1 665	1 719	3 525	14 813	-
9	Xiangkhouang	890	1 106	1 213	1 724	4 772	6 208
10	Vientiane	916	1 866	1 871	3 651	11 003	13 061
11	Borikhamxai	935	1 906	1 934	3 601	11 705	-
12	Khammouan	928	1 042	1 135	1 878	8 701	8 036
13	Savsnnakhet	853	927	1 139	2 323	9 686	9 479
14	Xaisomboun	1 221	-	-	-	-	12 054
	Southern Region						
15	Saravan	882	1 790	1 633	2 540	7 537	12 471
16	Xekong	896	1 414	1 394	2 145	7 347	-
17	Champasack	728	951	1 274	1 294	6 612	-
18	Attapu	888	764	1 163	2 101	4 693	7 875
	Average	878	1 303	1 412	2 516	7 206	10 367

Source: Statistical Division Department of Planning. MAE

Table 1.5.1 (5) Farm Gate Price by Provinces

(5) Cattle (Unit: Kip/kg)

Code	Name of province	Year					
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	774	1 068	1 012	1 503	5 019	9 735
2	Louangnamtha	813	1 060	1 171	2 183	5 403	5 059
3	Oudomxay	609	814	964	1 693	5 332	11 000
4	Bokeo	902	-	-	3 202	8 765	-
5	Loungphrabang	736	1 073	1 149	2 239	6 064	8 550
6	Houaphan	781	1 200	1 213	-	2 683	6 321
7	Xaignabouri	1 180	1 676	2 076	3 325	10 017	13 064
	Centra Region						
8	Vientiane Mun.	1 032	1 930	1 844	3 727	15 185	-
9	Xiangkhouang	884	1 131	1 230	1 671	4 494	6 248
10	Vientiane	968	1 983	1 996	3 777	11 257	13 413
11	Borikhamxai	931	1 937	1 977	3 933	12 286	-
12	Khammouan	937	1 042	1 128	1 909	8 938	8 443
13	Savsnnakhet	829	1 005	1 185	2 260	9 802	9 354
14	Xaisomboun	1 302	-	-	-	-	12 029
	Southern Region						
15	Saravan	809	1 834	1 527	2 308	6 394	10 776
16	Xekong	936	1 474	1 389	2 095	6 816	-
17	Champasack	703	897	1 045	1 149	6 582	-
18	Attapu	886	780	1 142	2 247	4 673	8 068
	Average	857	1 307	1 389	2 480	7 019	10 139

Source: Statistical Division Department of Planning. MAE

Table 1.5.1 (6) Farm Gate Price by Provinces

(6) Pigs (Unit: Kip/kg)

Code	Name of province	Year					
		1995	1996	1997	1998	1999	2000
	Northern Region						
1	Phongsali	932	1 341	1 112	2 184	6 896	10 671
2	Louangnamtha	1 040	1 114	1 303	2 452	5 787	5 420
3	Oudomxay	655	899	1 123	1 941	5 828	9 667
4	Bokeo	813	-	-	3 025	8 443	-
5	Loungphrabang	720	994	1 081	2 250	6 691	6 848
6	Houaphan	661	916	884	-	2 875	5 850
7	Xaignabouri	1 128	1 657	2 139	2 654	8 975	11 239
	Centra Region						
8	Vientiane Mun.	1 343	1 787	1 849	3 348	15 313	-
9	Xiangkhouang	992	1 181	1 277	1 792	5 078	6 122
10	Vientiane	1 028	2 000	1 857	3 262	9 547	9 783
11	Borikhamxai	1 036	1 925	1 967	3 171	9 438	-
12	Khammouan	893	978	1 044	1 740	7 256	6 314
13	Savsnnakhet	893	1 056	1 225	2 236	7 984	7 485
14	Xaisomboun	1 121	-	-	-	-	11 173
	Southern Region						
15	Saravan	634	1 714	1 291	1 832	4 692	5 604
16	Xekong	823	1 228	1 307	1 754	6 455	-
17	Champasack	823	963	992	1 282	6 907	-
18	Attapu	760	636	899	1 713	3 566	5 700
18	**Average**	888	1 274	1 344	2 328	6 570	8 163

Source: Statistical Division Department of Planning. MAE

Table 2.2.1 Number of Industry - handicraft establishments for the whole country by provinces 1996 - 1997

code	Name of province	Estabilshment size							
		Large		Middle		Small		Total	
		1996	1997	1996	1997	1996	1997	1996	1997
	Northern Region								
1	Phongsali	0	0	1	1	217	310	218	311
2	Louangnamtha	1	1	6	6	413	393	420	400
3	Oudomxay	0	0	4	4	1077	1150	1081	1154
4	Bokeo	0	0	0	0	462	463	462	463
5	Loungphrabang	2	1	28	19	2567	2330	2597	2350
6	Houaphan	0	0	4	1	214	215	218	216
7	Xaignabouri	4	3	28	31	923	1068	955	1102
	Centra Region								
1	Vientiane Mun.	74	77	124	148	798	895	996	1120
2	Xiangkhouang	0	0	11	10	511	566	522	576
3	Vientiane	1	1	41	43	1306	1314	1348	1358
4	Borikhamxai	3	3	13	18	1222	1376	1238	1397
5	Khammouan	14	17	9	11	521	915	544	943
6	Savsnnakhet	6	10	41	39	1505	1756	1552	1805
7	Xaisomboun	0	0	1	0	14	77	15	77
	Southern Region								
1	Saravan	0	1	9	13	970	1011	979	1025
2	Xekong	0	0	15	11	265	275	280	286
3	Champasack	5	5	71	81	1030	1134	1106	1220
4	Attapu	0	0	2	1	119	127	121	128
	Total:	**110**	**119**	**408**	**437**	**14134**	**15375**	**14652**	**15931**

Remark:
Small: Number of employments less than 9 person.
Midle: Number of employments from 10 to 99 person.
Large: Number of employments more than 100 person.
Source: Ministry of Industry - Handicraft

Table 2.2.2 List of Food Processing Factory (Middle and Large Type Only) -1

No	ISIC	Name	Adress	Owner type	Legal organization	Employee
1	1553	Xiengkhouang Beer factory	Vientiane Mun - Chanthabuly-Phonsavang	Domestic private	Single proprietorship	12
2	1531	Khamlouane Rice mill	Sekong-Thateng-Thateng Neua	Domestic private	Single proprietorship	14
3	1531	Vilavan Ricemills	Champasack-Pholthong-Vathor	Domestic private	Single proprietorship	10
4	1533	Sengouthay animal feeds factory	Bolikhamxay-Bilikhan-Songkhon Mai	Local government	Sole state	13
5	1541	Scandinavian Bakery	Vientiane Mun-Chanthabury-Xiengngeune	Foreign	Single proprietorship	20
6	1541	Nilamith Bakery	Savannakhet-Khanthabury-Houa Meuang Neua	Domestic private	Single proprietorship	12
7	1541	999 PTK Bakeries factory	Vientiane Mun-Chanthabury-Thongkhankham Neua	Domestic private	Single proprietorship	24
8	1542	Paksap Sugar factory	Vientiane Mun-Saythany-Paxap May	Foreign	Company	138
9	1544	Factory of Noddle	Vientiane Mun-Saythany-Nongphanga	Domestic private	Single proprietorship	21
10	1549	Khok saat salt factory	Vientiane Mun-Saythany-Khoksaat	Domestic private	Single proprietorship	309
11	1549	Ban Bo Salt factory	Vientiane-Thoulakhom-Ban Bo	Domestic private	Single proprietorship	44
12	1549	Nateuy salt factory	Phongsaly-Samphanh-Nateuy	Domestic private	Single proprietorship	78
13	1549	Dongtalieng Salt factory	Savannakhet-Champhone-Dongtalieng	Domestic and foreign (joint venture)	Single proprietorship	30
14	1549	Botenh Salt factory	Louangnamtha-Namtha-Botenh	Local government	Sole state	28
15	1551	Panitchaleune (Lao-Thai) 1990 Co.ltd	Champasack-Pakse-Khornlai	Domestic and foreign (joint venture)	Company	61
16	1551	Destine water factory	Champasack-Pakse-Keosamphan	Domestic private	Single proprietorship	10
17	1552	Lao Brewery Co.ltd	Vientiane Mun-Hasayfong-Salakham	Domestic and foreign (joint venture)	Company	202
18	1553	Xiengkhouang Beer factory	Vientiane Mun - Chanthabuly-Phonsavang	Domestic private	Single proprietorship	12
19	1554	Lao Soft drink Co.ltd	Vientiane Mun-Hasayfong-Salakham	State and private	Company	157
20	1554	Singnakhone Water Drinking	Vientiane Mun-Saysettha-Pholphanao	Domestic private	Single proprietorship	21
21	1554	Lam pure drinking water	Savannakhet-Khanthabury-Nonsarth	Domestic private	Single proprietorship	18
22	1520	Vientiane Ice cream Product Co.ltd	Vientiane Mun-Saythany-Phoukham	Foreign	Company	24
23	1520	Ice factory	Vientiane Mun-Saythany-Phonpheng	Domestic Private	Single proprietorship	10
24	1520	Kia Ice factory	Savannakhet-Khanthabury-Lattanalangsy Tai	Domestic private	Single proprietorship	25
25	1520	Huameuang Ice factory	Savannakhet-Khanthabury-Houa Meuang Neua	Domestic private	Single proprietorship	13
26	1520	Laongam Ice factory	Salavanh-laongam-laongame	Domestic private	Single proprietorship	11
27	1520	Haysok Ice factory	Vientiane Mun-Sisattanak-0104-Undefined	Undefined	Undefined	24
28	1531	Khamkeung Rices mills	Champasack-Pholthong-1601Undefined	Undefined	Undfined	10
29	1531	Km2 Rice mills factory	Salavanh-Salavane Mun-1401 Undefined	Undefined	Undefined	11
30	1531	Napong Rice mills factory	Saravane-Khongxedonh-1406 Undefined	Undefined	Undefined	11
31	1531	Bounmy Rice mills factory	Sekong-Lamarm-1501 Unfefined	Undefined	Undefined	14
32	1531	Sithong Rice mill factory	Sekong-Thateng-1504 Undefined	Undefined	Undefined	18
33	1549	Khamtouane Ginger conservation factory	Champasack-Paksong-1604 Undefined	Undefined	Undefined	15
34	1549	Kingkeo Tea factory	Champasack-Bachiangchaleunsook-1603 Undefined	Undefined	Undefined	11
35	1549	Songkhon Salt factory	Bolikhamxay-Pakxanh-1101 Undefined	Undefined	Undefined	38
36	1554	Ounheuane pure dringking water	Bokeo-Huoyxay-0501 Undefined	Undefined	Undefined	10
37	1554	Kou pure dringking water	Bokeo-Huoyxay-0501 Undefined	Undefined	Undefined	10
38	1554	Hime pure dringking	Bokeo-Tonpheung-0502 Undefined	Undefined	Undefined	10
39	1554	Khulave pakxanh pure dringking water	Bolikhamxay-Pakxanh-1101 Undefined	Undefined	Undefined	12

Source: Ministry of Industry and handicraft

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Table 2.2.2 List of Food Processing Factory (Middle and Large Type Only) -2

No	ISIC	Name	Adress	Owner type	Legal organization	Employee
40	1554	Souphalak pure Dringking water	Savannakhet-Khanthabuly-1301 Undefined	Undefined	Undefined	10
41	1554	Xayaphoume Pure Dringking Water factory	Savannakhet-Khanthabuly-1301 Undefined	Undefined	Undefined	10
42	1554	Sinanta Pure Dringking Water factory	Savannakhet-Khanthabuly-1301 Undefined	Undefined	Undefined	10
43	1554	Bounsouk Pure Dringking water factory	Savannakhet-Khanthabuly-1301 Undefined	Undefined	Undefined	10
44	1554	Boualiene Pure Dringking Water	Vientiane-Keo oudom-1003 Undefined	Undefined	Undefined	15
45	1554	Donkkouane Pure Dringking water	Vientiane-Phonhong-1001 Undefined	Undefined	Undefined	11
46	1554	Somchay Pure Dringking Water	Vientiane-Phonhong-1001 Undefined	Undefined	Undefined	10
47	1554	Huangkham Pure Dringking Water	Vientiane-Phonhong-1001 Uneifined	Undefined	Undefined	10
48	1554	Khaykham Pure Dringking Water	Vientiane-Vangvieng-1005 Undefined	Undefined	Undefined	12
49	1554	Phanhanak pure Dringking water	Vientiane Mun-Chanthabuly-0101 Undefined	Undefined	Undefined	28
50	1554	Lao mineral factory	Vientiane Mun-Chanthabuly-0101 Undefined	Undefined	Undefined	20
51	1554	P.S.P pure dringking water	Vientiane Mun-Xaythany-0106 Undefined	Undefined	Undefined	10
52	1554	Mouhao Pure fringkig water	Vientiane Mun-Xaythany-0106 Undefined	Undefined	Undefined	10
53	1554	Noksantiphap Pure dringking water	Vientiane Mun-Xaythany-0106 Undefined	Undefined	Undefined	10
54	1554	VT thanchay pure fringking water	Vientiane Mun-Xaythany-0106 Undefined	Undefined	Undefined	10
55	1554	Khankham pure dringking water	Vientiane Mun-Jadxaifong-0107 Undefined	Undefined	Undefined	10
56	1554	Kapheth pure dringking water	Vientiane Mun-Naxaithong-0105 Undefined	Undefined	Undefined	12
57	1554	Dokkoulap pure fringking water	Vientiane Mun-Naxaithong-0105 Undefined	Undefined	Undefined	12
58	1554	Phoukhaokham pure dringking water	Vientiane Mun-Naxaithong-0105 Undefined	Undefined	Undefined	10
59	1554	Nampheunthong pure dringking	Vientiane Mun-Naxaithong-0105 Undefined	Undefined	Undefined	10
60	1554	Chamlath factory	Vientiane Mun-Naxaithong-0105 Undefined	Undefined	Undefined	10
61	1554	Namngeume pure dringking water	Vientiane Mun-Mayparkngum-0109 Underfined	Undefined	Undefined	10
62	1554	Phommalinh pure dringking water	Vientiane Mun-Sisattanak-0104-Undefined	Undefined	Undefined	30
63	1554	Thipsavanh pure dringking water	Vientiane Mun-Sikhothabong-0102 Undefined	Undefined	Undefined	11
64	1554	Dokbouathong pure dringking water	Vientiane Mun-Sikhothabong-0102 Undefined	Undefined	Undefined	13
65	1554	Sanethip pure dringking water	Vientiane Mun-Sikhothabong-0102 Undefined	Undefined	Undefined	10
66	1554	Phongeunh tobacco Curing factory	Vientiane Mun-Hacxaifong-0107 Undefind	Undefined	Undefined	20
67	1554	Khampan Pure Dringking water	Vientiane-Vangvieng-1005 Undefined	Undefined	Undefined	10
68	1554	Kasy Pure Dringking water	Vientiane-Kasy-1004 Undefined	Undefined	Undefined	10
69	1520	K.33 Ice Factory	Chapasack-Champasack-1607 Undefined	Undefined	Undefined	10
70	1520	Senvang Ice factory	Saravane-Saravane-Mun-1401 Undefined	Undefined	Undefined	11
71	1520	Kiangsak Ice factory	Vientiane Mun-Sisattanak-0104-Undefined	Undefined	Undefined	15
72	1520	Bird Icecream factory	Vientiane Mun-Sisattanak-0104-Undefined	Undefined	Undefined	10
73	1520	Sixomxeunh Ice factory	Vientiane Mun-Sikhothabong-0102 Undefined	Undefined	Undefined	10
74	1520	Sibounheuang ice factory	Vientiane Mun-Sikhothabong-0102 Undefined	Undefined	Undefined	11

Source: Ministry of Industry and handicraft

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 1995 (1/6) **Unit. Kips/Kg**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	103	107	122	131	147	155	162	188	196	179	167	164	**152**
Rainfed glutinous paddy	89	96	108	117	135	145	155	185	184	165	156	151	**141**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	107	104	120	128	133	139	155	197	164	174	171	159	**146**
Irrigated glutinous paddy	100	98	123	118	131	135	150	181	161	168	163	153	**140**
c. Upland rice paddy													
Upland non-glutinous paddy	88	93	107	121	141	153	153	177	168	160	144	139	**137**
Upland glutinous paddy	92	96	117	131	156	156	162	191	180	152	155	143	**144**
2. Bean and Grains													
Maize	71	80	76	83	94	106	110	113	113	125	123	128	**102**
Mungbean	525	554	528	508	582	621	667	683	811	820	696	696	**641**
Soybean	493	442	494	525	508	559	676	734	897	817	725	697	**630**
Peanut	538	541	518	598	605	570	628	703	669	727	716	729	**628**
Sesames	449	407	439	417	439	452	434	385	487	437	551	611	**459**
Coffee	1 046	956	913	909	884	903	1 064	915	946	833	792	1 017	**932**
3. Meats													
Live Buffalo	761	791	776	801	854	882	877	920	929	976	974	989	**878**
Live Cattle	784	764	741	760	824	857	855	890	908	984	964	952	**857**
Live pig	772	750	756	758	821	859	847	987	968	1 051	1 024	1 063	**888**
Duck broiler (head)	2 525	2 322	2 483	2 555	2 552	2 751	2 884	3 157	3 051	3 116	3 218	3 157	**2 814**
Chicken broiler	1 107	1 134	1 208	1 160	1 141	1 149	1 229	1 279	1 369	1 319	1 247	1 297	**1 220**
Free range chicken (head)	1 707	1 695	1 817	1 927	1 920	2 062	2 068	2 356	2 193	2 317	2 327	2 446	**2 070**
Chicken eggs	54	57	60	62	61	65	65	68	72	75	78	79	**66**
Duck eggs	72	74	74	77	80	81	84	89	93	99	102	105	**86**

Source: Ministry of Agriculture and Forestry

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 1996 (2/6) **Unit. Kips/Kg**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	164	171	175	181	194	191	197	196	193	196	190	177	**185**
Rainfed glutinous paddy	153	153	161	170	175	177	185	185	185	183	175	170	**173**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	159	162	170	171	170	183	196	208	204	198	197	194	**184**
Irrigated glutinous paddy	161	163	175	164	164	179	173	176	184	181	174	189	**173**
c. Upland rice paddy													
Upland non-glutinous paddy	151	151	159	160	177	178	188	191	179	166	180	161	**170**
Upland glutinous paddy	140	147	154	157	165	164	165	185	176	176	169	169	**164**
2. Bean and Grains													
Maize	278	273	258	186	205	169	173	142	137	112	189	128	**187**
Mungbean	734	847	952	1 139	856	802	853	793	825	777	673	687	**828**
Soybean	678	779	810	945	786	742	737	792	1 061	822	755	771	**806**
Peanut	789	804	884	874	869	857	832	876	848	910	857	900	**858**
Sesames	614	741	815	545	901	730	693	706	495	607	717	698	**688**
Coffee	1 425	1 443	1 259	1 542	1 272	1 106	1 129	970	1 271	1 419	1 214	997	**1 254**
3. Meats													
Live Buffalo	1 094	1 144	1 198	1 209	1 257	1 204	1 177	1 248	1 258	1 290	1 293	1 303	**1 223**
Live Cattle	1 058	1 116	1 193	1 190	1 231	1 220	1 169	1 236	1 213	1 278	1 244	1 307	**1 204**
Live pig	1 137	1 161	1 194	1 227	1 288	1 188	1 151	1 219	1 225	1 270	1 253	1 274	**1 216**
Duck broiler (head)	3 407	3 311	3 534	3 654	3 788	3 825	4 015	4 005	3 979	4 086	3 914	3 820	**3 778**
Chicken broiler	1 536	1 601	1 706	1 663	1 660	1 662	1 599	2 027	1 613	1 532	1 527	1 683	**1 651**
Free range chicken (head)	2 597	2 585	3 012	2 816	2 792	2 784	2 859	2 845	2 768	2 876	2 852	2 892	**2 806**
Chicken eggs	83	80	78	83	81	81	86	90	88	89	87	88	**84**
Duck eggs	109	106	106	115	111	109	115	121	119	116	116	117	**113**

Source: Ministry of Agriculture and Forestry

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 1997 (3/6)

Unit. Kips/Kg

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	173	200	213	217	238	244	278	296	288	288	258	262	**246**
Rainfed glutinous paddy	162	178	183	190	209	222	246	268	275	277	257	254	**227**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	210	220	229	208	212	207	257	276	278	311	268	284	**247**
Irrigated glutinous paddy	170	189	179	178	204	216	254	276	301	307	274	286	**236**
c. Upland rice paddy													
Upland non-glutinous paddy	152	162	189	182	192	226	232	255	255	252	245	246	**216**
Upland glutinous paddy	145	163	177	170	182	216	237	261	258	264	244	237	**213**
2. Bean and Grains													
Maize	123	138	132	135	139	176	230	194	155	167	152	157	**158**
Mungbean	764	738	691	790	650	946	875	858	955	1 243	994	821	**860**
Soybean	760	751	782	881	800	1 125	900	1 056	844	884	720	947	**871**
Peanut	810	844	820	857	1 052	953	894	795	930	958	760	852	**877**
Sesames	481	493	499	457	438	467	501	408	532	499	554	621	**496**
Coffee	1 194	1 535	1 130	1 988	1 775	1 700	1 775	550	1 400	2 200	1 767	1 855	**1 572**
3. Meats													
Live Buffalo	1 307	1 280	1 243	1 356	1 326	1 437	1 458	1 578	1 464	1 456	1 512	1 531	**1 412**
Live Cattle	1 298	1 308	1 249	1 340	1 338	1 383	1 453	1 518	1 394	1 424	1 484	1 482	**1 389**
Live pig	1 307	1 272	1 256	1 320	1 267	1 347	1 350	1 435	1 316	1 379	1 442	1 440	**1 344**
Duck broiler (head)	4 099	4 062	3 996	4 133	4 147	4 473	4 441	4 362	4 178	4 113	4 404	4 365	**4 231**
Chicken broiler	1 678	1 867	1 614	1 625	1 682	1 642	1 822	2 085	2 165	1 977	2 170	2 102	**1 869**
Free range chicken (head)	2 915	2 896	2 930	3 007	2 961	3 043	3 115	3 082	3 093	3 045	3 247	3 151	**3 040**
Chicken eggs	87	92	91	92	92	93	94	93	98	96	99	99	**94**
Duck eggs	109	114	114	115	118	122	124	121	125	128	130	132	**121**

Source: Ministry of Agriculture and Forestry

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 1998 (4/6) **Unit. Kips/Kg**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	268	297	341	380	456	507	582	670	660	588	601	663	**501**
Rainfed glutinous paddy	260	290	331	356	413	472	592	625	602	548	559	592	**470**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	309	273	319	349	363	507	613	595	626	552	633	696	**486**
Irrigated glutinous paddy	284	316	299	346	384	448	546	612	595	569	604	625	**469**
c. Upland rice paddy													
Upland non-glutinous paddy	240	297	331	338	440	476	587	645	629	535	588	659	**480**
Upland glutinous paddy	239	283	322	349	413	442	579	636	634	524	563	650	**470**
2. Bean and Grains													
Maize	173	233	251	279	348	401	376	399	325	337	300	278	**308**
Mungbean	1 062	1 024	1 599	2 077	1 810	2 093	2 441	2 557	2 400	2 883	2 467	3 350	**2 147**
Soybean	1 538	1 680	1 968	2 364	2 192	2 319	2 348	2 534	2 230	2 382	1 838	1 853	**2 104**
Peanut	1 155	1 493	2 328	2 160	2 190	2 491	2 218	2 296	2 789	2 608	2 302	2 877	**2 242**
Sesames	720	665	1 127	1 247	2 078	1 577	2 135	2 522	1 135	1 849	1 954	1 883	**1 574**
Coffee	1 842	3 500	1 850	2 569	3 340	2 199	2 481	2 450	1 300	1 000	333		**2 079**
3. Meats													
Live Buffalo	1 537	1 605	1 778	2 251	2 133	2 165	2 665	2 970	2 991	3 180	3 265	3 657	**2 516**
Live Cattle	1 501	1 570	1 779	2 198	2 073	2 151	2 698	3 005	2 926	3 074	3 160	3 625	**2 480**
Live pig	1 386	1 449	1 673	1 979	1 886	2 107	2 526	2 879	2 683	2 916	2 999	3 453	**2 328**
Duck broiler (head)	4 531	4 775	5 529	6 479	7 260	7 760	8 898	9 450	9 165	9 661	10 467	11 915	**7 991**
Chicken broiler	2 229	2 383	2 920	3 276	3 679	4 472	4 373	4 610	4 175	4 367	4 563	6 003	**3 921**
Free range chicken (head)	3 307	3 466	4 117	4 644	4 972	5 524	6 074	5 784	5 846	6 365	6 966	9 082	**5 512**
Chicken eggs	110	118	137	153	166	185	234	226	236	432	256	293	**212**
Duck eggs	145	157	182	196	209	253	328	466	315	337	336	380	**275**

Source: Ministry of Agriculture and Forestry

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 1999 (5/6) **Unit. Kips/Kg**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	650	638	692	736	815	934	963	984	976	857	815	835	**825**
Rainfed glutinous paddy	622	627	670	733	825	902	964	961	940	805	726	728	**792**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	604	646	660	619	793	821	921	846	906	759	774	701	**754**
Irrigated glutinous paddy	619	636	669	658	767	826	887	854	797	695	695	613	**726**
c. Upland rice paddy													
Upland non-glutinous paddy	658	672	746	847	815	989	950	1 009	915	861	695	646	**817**
Upland glutinous paddy	626	651	773	800	821	960	945	908	962	820	679	784	**811**
2. Bean and Grains													
Maize	354	408	508	492	575	660	622	557	733	633	763	400	**559**
Mungbean	2 988	3 125	3 260	5 500	4 317	4 000	4 688	3 500	3 861	2 450	2 933	2 875	**3 625**
Soybean	3 922	1 867	3 775	6 750	3 450	4 850			2 617	4 500	2 250	2 625	**3 661**
Peanut	2 834	2 888	3 214	3 894	3 595	4 456	3 792	3 813	3 701	2 432	2 703	2 250	**3 298**
Sesames	3 204	3 150	3 000	3 000	3 263	3 400	2 438	2 575	5 745	4 575	4 478	3 056	**3 490**
Coffee	4 082	4 492	4 875	7 250	7 750	5 750	7 975	6 000	7 000	6 375	6 250	7 125	**6 244**
3. Meats													
Live Buffalo	4 101	4 214	5 135	5 382	6 394	7 202	8 133	9 707	8 683	9 162	8 617	9 746	**7 206**
Live Cattle	3 899	3 884	5 031	5 211	6 356	7 197	8 096	9 470	8 268	8 895	8 223	9 696	**7 019**
Live pig	3 661	3 712	4 768	5 081	5 802	6 843	8 188	9 098	8 009	7 812	7 450	8 422	**6 570**
Duck broiler (head)	11 982	12 383	16 020	16 536	21 060	22 310	25 019	30 169	29 466	29 604	29 742	27 914	**22 684**
Chicken broiler	9 242	10 600	9 293	9 500	9 333	14 719	11 125	13 703	14 181	12 217	15 117	15 881	**12 076**
Free range chicken (head)	9 209	10 312	12 253	14 373	14 897	16 210	18 456	20 451	20 404	19 649	20 280	18 673	**16 264**
Chicken eggs	305	324	384	439	452	542	554	587	574	565	552	547	**486**
Duck eggs	403	417	487	576	586	608	699	764	770	763	714	717	**625**

Source: Ministry of Agriculture and Forestry

Table 2.2.3 Monthly Agriculture and Livestock Farmer Price for year 2000 (6/6) **Unit. Kips/Kg**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1. Rice paddy													
a. Lowland rice paddy													
Rainfed non-glutinous paddy	733	789	783	878	950	1 042	1 099	1 027					**913**
Rainfed glutinous paddy	773	751	746	818	839	957	943	959					**848**
b.Dry season rice paddy													
Irrigated non-glutinous paddy	675	725	692	805	767	909	847	1 116					**817**
Irrigated glutinous paddy	661	609	644	630	797	877	864	993					**759**
c. Upland rice paddy													
Upland non-glutinous paddy	792	729	691	808	877	918	936	993					**843**
Upland glutinous paddy	753	731	700	810	836	886	880	956					**819**
2. Bean and Grains													
Maize	563	419	1 000	567	783	883	783	933					**741**
Mungbean	3 313	4 888	4 050	3 575	5 075	4 575	4 450	6 700					**4 578**
Soybean	2 875		4 000	6 500	5 250	6 125	7 000	7 000					**5 536**
Peanut	2 125	3 188	4 836	3 813	4 217	4 291	3 443	4 005					**3 740**
Sesames	3 739	4 038	1 930	1 700	4 833	4 000	3 075	1 500					**3 102**
Coffee	4 500	7 000	7 000		2 100	15 000	15 000						**8 433**
3. Meats													
Live Buffalo	9 394	10 053	9 537	10 894	10 187	10 784	10 241	11 843					**10 367**
Live Cattle	9 327	10 285	9 694	10 408	9 942	10 066	10 238	11 154					**10 139**
Live pig	7 643	8 046	7 770	8 292	8 235	8 378	8 588	8 352					**8 163**
Duck broiler (head)	24 415	27 202	25 116	26 040	25 077	26 610	26 022	25 429					**25 739**
Chicken broiler	11 117	13 900	13 900	12 777	17 625	15 850	14 483	12 875					**14 066**
Free range chicken (head)	16 946	18 355	19 178	18 679	18 845	18 689	17 175	18 565					**18 304**
Chicken eggs	494	532	525	512	525	507	489	477					**508**
Duck eggs	667	768	752	707	751	709	689	690					**716**

Source: Ministry of Agriculture and Forestry

Remark: The statictic of year 2000 have 8 months data.

Table 2.2.4 Market Price Of Foods in 1998(1/2)

No.	Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Glutinousrice												
1	Firstquality	1 355	1 400	1 480	1 580	1 600	1 750	1 870	1 910	1 810	1 785	1 475	1 495
2	Second quality	1 205	1 240	1 350	1 450	1 450	1 535	1 655	1 655	1 595	1 595	1 295	1 315
	Ordinoryrice												
3	Thai rice	2 200	2 240	2 360	2 740	2 840	2 935	3 070	3 180	3 140	3 215	3 140	3 085
4	Lao rice	1 845	1 860	1 880	1 960	2 060	2 175	2 460	2 475	2 435	2 460	2 530	2 230
	Other cereals and breads												
5	Bread	630	650	760	780	860	995	1 035	1 190	1 230	1 270	1 290	1 330
6	Ready made and othernoodles	2 210	2 355	2 480	2 840	3 085	3 445	3 750	3 880	3 885	4 020	4 400	4 400
7	Noodle,Vemicelli	670	760	820	985	985	1 060	1 255	1 260	1 310	1 295	1 090	1 090
8	Biscuits	8 000	8 600	9 400	11 700	12 500	13 300	15 700	16 100	15 300	15 100	14 650	15 350
	Pork Meat												
9	First quality	9 000	11 675	13 225	16 800	16 400	17 300	19 150	18 950	18 700	18 550	18 250	18 050
10	Second quality	7 415	9 150	10 600	14 000	13 800	14 950	16 350	13 880	13 880	15 600	16 100	15 950
11	Third quality	6 075	7 350	8 700	10 850	10 850	12 600	13 550	13 600	13 200	13 200	12 750	12 700
	Bufflo meat												
12	First quality	8 775	10 600	12 625	15 950	15 450	16 150	18 000	17 800	17 800	17 650	17 600	17 450
13	Second quality	7 275	8 500	10 425	12 870	13 300	14 175	16 100	16 400	16 400	16 200	16 150	16 050
14	Third quality	4 750	5 700	6 900	9 000	9 000	9 450	10 350	10 550	10 750	10 550	10 450	10 400
	Cattle beef												
15	First quality	9 425	11 600	13 350	17 150	16 800	17 450	19 000	18 950	18 750	18 650	19 000	18 850
16	Second quality	7 825	9 300	11 250	14 600	14 500	15 150	17 000	17 250	17 250	17 100	17 100	16 950
17	Third quality	5 175	6 300	7 700	9 200	9 300	10 000	10 800	10 900	11 100	11 150	11 200	11 150
	Chicken												
18	English chicken	6 250	6 875	6 700	7 600	8 900	10 200	11 150	11 550	11 300	11 500	11 300	11 300
19	Native chicken	8 080	8 520	10 100	11 740	13 000	14 850	16 700	17 700	17 650	17 650	17 250	17 000
20	Entrails ,pig liver	7 100	8 500	10 200	12 300	12 800	15 000	17 000	17 550	17 350	17 150	16 850	16 700
	Fresh fish												
21	Carp1	8 600	10 100	11 100	12 440	12 760	13 800	16 600	16 150	13 050	11 450	14 550	15 050
22	Carp2	7 050	8 300	9 000	9 960	10 400	11 725	12 225	13 000	12 800	11 750	11 775	12 350
23	Catfish	8 625	10 400	10 500	11 940	12 160	13 500	16 300	18 300	14 700	14 000	18 000	17 950
24	Canned and frozen fish	1 270	1 410	1 560	1 775	1 875	2 045	2 200	2 610	2 610	2 470	2 450	2 435
25	Dried fish	10 500	12 800	14 200	14 900	17 600	21 150	25 950	27 250	22 700	22 250	27 200	27 000
26	Fermented fish	2 700	3 200	4 000	4 600	4 700	5 525	5 825	6 550	6 475	6 450	6 350	6 200
	Milk Cheese and Eggs												
27	Condensed milk	2 130	2 665	3 090	3 540	3 595	3 860	4 380	4 490	4 330	4 355	4 070	4 020
28	Chiken egg	326	367	406	465	470	560	630	648	618	555	510	475
29	Duck egg	410	490	530	630	675	740	780	845	845	793	700	658

Table 2.2.4 Market Price Of Foods in 1998 (2/2)

No.	Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	Fruits												
30	Bananas	795	910	1 080	1 250	1 270	1 330	1 495	1 495	1 410	1 435	1 510	1 525
31	Papayas	685	730	720	880	1 180	1 180	1 090	1 345	1 245	920	1 020	1 040
32	Oranges	4 440	6 935	7 525	9 025	10 325	10 550	10 200	10 550	10 225	8 200	8 350	7 750
	Vegetables												
33	Beans	1 560	1 535	1 750	2 065	2 595	2 970	2 885	2 880	2 880	2 980	3 140	3 200
34	Cabbage	995	960	1 035	1 220	1 970	2 740	3 065	3 140	3 050	2 710	2 635	2 430
35	Morning Glory	850	990	1 105	1 225	1 380	1 480	1 740	1 840	1 650	1 965	1 975	2 225
36	Cucumber	1 065	1 020	1 010	1 400	1 660	1 460	1 310	1 430	1 520	1 650	1 885	1 885
37	Dried Onoins	3 390	3 460	3 600	3 800	3 860	4 000	4 475	4 835	5 275	6 300	7 125	6 740
38	Tomatoes	1 810	1 370	1 490	2 040	4 165	5 700	6 175	6 725	6 650	7 500	7 000	6 700
39	Spinach	1 010	1 000	1 190	1 440	1 670	2 390	2 625	2 875	2 775	2 700	2 700	2 450
40	Fresh chilli	3 000	3 650	3 750	4 550	4 400	4 300	4 300	5 500	5 675	5 475	5 825	8 140
41	Bamboo	1 280	1 300	1 450	2 075	1 580	1 460	1 380	1 350	1 365	1 650	2 210	2 735
42	Dried chilli	7 200	8 300	9 500	11 200	12 500	13 800	14 800	15 850	15 650	14 950	15 000	15 000
	Sugar and sweets												
43	Sugar	2 160	2 080	2 400	2 965	2 920	2 960	3 230	3 180	2 925	2 890	2 810	2 805
44	Sweets	550	720	740	900	960	1 100	1 200	1 250	1 250	1 275	1 275	1 275
	Salt and spices												
45	Salt	280	350	400	440	460	530	540	628	640	640	640	690
46	Fish sauces	3 315	3 905	4 440	5 100	5 120	5 370	5 990	6 295	5 960	5 825	5 725	5 725
47	Sprices and seasoning	8 440	10 610	12 100	13 750	13 600	14 910	16 600	16 800	15 600	14 800	13 400	13 600
	Take away cooker food												
48	Grilled chicken	1 960	2 500	2 800	2 900	3 100	3 650	4 150	4 475	4 475	4 575	4 775	4 750
49	Sausages	300	390	470	530	530	680	680	680	680	780	780	780
	Sit down meals												
50	noodle soup	2 400	2 900	3 300	3 550	3 600	4 150	4 400	4 725	4 725	5 000	5 000	5 000
51	Arice noodle soup	1 260	1 600	1 550	1 800	2 100	2 475	2 800	2 950	3 150	3 250	3 200	3 200
	Other drink												
52	Bottle water	500	580	620	680	785	830	925	945	945	1 050	1 065	1 075
53	Soft drinks	840	980	1 520	1 480	1 480	1 490	1 400	1 400	1 500	1 540	1 600	1 635
54	Coffee	7 260	7 900	8 400	8 400	8 200	8 200	8 800	8 850	9 050	8 850	8 700	8 800
55	Chocoleted drink	8 200	9 675	11 550	12 250	12 500	13 100	13 800	14 300	14 000	13 750	15 650	15 600

Source : National Statistical Center