

ASIAN DEVELOPMENT BANK

TAR: LAO 35297

TECHNICAL ASSISTANCE
(Financed by the Japan Special Fund)

TO THE

LAO PEOPLE'S DEMOCRATIC REPUBLIC

FOR PREPARING THE

PARTICIPATORY LIVESTOCK DEVELOPMENT PROJECT

December 2003

CURRENCY EQUIVALENTS

(as of 30 November 2003)

Currency Unit	–	kip (KN)
KN 1.00	=	\$0.0001
\$1.00	=	KN10,491

The exchange rate of the kip is determined by the Bank of the Lao People's Democratic Republic under a system of managed float. This report uses a rate of \$1 = KN10,491, which generally prevailed during the Fact-Finding Mission.

ABBREVIATIONS

ADB	–	Asian Development Bank
AusAID	–	Australian Agency for International Development
CIAT	–	Centro Internacional de Agricultura Tropical (International Center for Tropical Agriculture)
GMS	–	Greater Mekong Subregion
IEE	–	initial environment examination
ILRI	–	International Livestock Research Institute
Lao PDR	–	Lao People's Democratic Republic
MAF	–	Ministry of Agriculture and Forestry
NGO	–	nongovernment organization
NPEP	–	National Poverty Eradication Program
PPA	–	Participatory Poverty Assessment
PPMS	–	project performance monitoring system
TA	–	technical assistance

NOTES

- (i) The fiscal year of the Government ends on 30 September
- (ii) In this report, "\$" refers to US dollars and "A\$" to Australian dollars.

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I. INTRODUCTION

1. During the 2003 Country Programming Mission of the Asian Development Bank (ADB), the Government of the Lao People's Democratic Republic (Lao PDR) confirmed its request for technical assistance (TA) to prepare the Participatory Livestock Development Project, based on ADB's livestock sector review in 2002.¹ The TA is included in ADB's 2003 TA program for the Lao PDR. The TA Fact-Finding Mission visited the Lao PDR in September 2003 and held discussions with stakeholders, including officials of relevant government agencies, external funding agencies, nongovernment organizations (NGOs), and potential beneficiaries. The Mission reached an agreement with the Government on the TA objectives, scope, and implementation arrangements.

II. ISSUES

2. Agriculture accounts for approximately 52% of gross domestic product (GDP) in the Lao PDR with livestock and fisheries contributing 18%. More than 80% of the population depends on agriculture and forestry sector for its livelihood, with most people practicing subsistence farming. Over 95% of livestock is produced by smallholders. Livestock is integral to farming systems and the sole means of rural people to accumulate assets, earn cash income, and provide draft power as well as manure for crops. Sales of cattle, buffalo, pigs, and chickens typically account for about 50% of annual cash income in sloping lands. ADB's 2001 participatory poverty assessment (PPA) confirmed the significance of livestock, particularly for the rural poor.² They consider livestock an asset and safety net, to be sold when necessary. Similarly, many PPAs concluded that poor Lao farmers clearly see livestock as a means to improve their livelihood and escape poverty.

3. The opportunities to improve the livelihood of the poor by strengthening their livestock production are, therefore, substantial. The Government's social development strategies place livestock development at the center of their poverty reduction thrusts.³ Livestock sector development assistance is consistent with the principles of the country strategy and program to promote rural development by enhancing income generating activities, and of the poverty reduction partnership agreement between the Lao PDR and ADB, which includes cooperation in improving agriculture productivity through, among other means, livestock development.

4. The greatest constraint on livestock production is the high animal mortality rate due to a high incidence of animal diseases, poor nutrition, and low-input management and husbandry practices. More than 80% of chickens die every year in upland villages, sporadic disease epidemics frequently kill most pigs, and the mortality rate of buffalo calves due to internal parasites is 30–40%. Vaccination programs based on cold-chain-dependent vaccines have not reduced livestock mortality because of the difficulty in providing effective and consistent vaccine coverage in remote areas. However, simple and affordable technologies to improve animal health and management are available, and adoption of a combination of these technologies at the farm level could significantly reduce mortality rates and improve livestock productivity. Some of the technologies have already been introduced to farmers in northern provinces in a

¹ The TA first appeared in *ADB Business Opportunities* (Internet edition) on 7 October 2003.

² ADB. 2001. *Participatory Poverty Assessment*. Manila. The PPA found that loss of livestock is one of the main causes of poverty, with 70% of those interviewed identifying livestock disease as a major problem. The poor in the northern region identified curing livestock disease as their first priority.

³ The Government's Socioeconomic Development Plan for 2001–2005 emphasizes the significance of livestock development particularly in the northern region as a strategic poverty reduction measure. The Lao PDR's National Poverty Eradication Program (NPEP) recognizes livestock diseases and productivity as priority issues for the poor.

participatory livestock extension project, and have significantly improved farmers' income and livelihood by reducing mortality and improving livestock productivity.⁴

5. The key to effective introduction and sustainable adoption of such livestock production technologies is clear understanding by farmers of prevalent diseases and improved feeding and management practices needed to combat these diseases. The development of feasible technical options that address farmers' priorities, and a participatory extension system responsive to farmers' needs is critical to enhance the knowledge of farmers and win their trust so that they try new technologies. For sustainable impacts, farmers need information about all feasible options and must be allowed to make an informed decision to adopt innovations that best suit their farming systems. Such participatory extension systems will involve farmer training, diagnosis of animal problems, planning of optional measures, and follow-up monitoring and support in partnership with farmers. The support of the National Animal Health Center linked to such extension system is also critical for effective animal disease diagnosis and evaluation of control measures. Other lessons learned from past government and externally funded livestock programs underscore the significance of (i) integrated sets of interventions to improve animal health, (ii) a gradual approach to disseminate new technologies with substantial capacity building support at the field level for their successful adoption, (iii) marketing development and information support, and (iv) development of private service providers in essential areas of livestock production and trading for sustainable and effective livestock development.

6. Any interventions to improve livestock production in the country need to be balanced with the measures to develop livestock business opportunities in the region. Livestock development is one of the few rural income-generating sources that has immediate growth potential. Strong demand growth for meat domestically and in Thailand offers considerable market opportunities to absorb incremental production of cattle, buffalo, and goats. Sloping land in the Lao PDR has a comparative advantage over neighboring countries in large-ruminant production. However, as growth of pig and poultry production for export is constrained by feed costs higher than in other countries in the region, the foreseeable market for pigs and poultry is only domestic. More studies on marketing chains for livestock trade in the Lao PDR and neighboring countries are required to identify constraints on livestock business development as well as emerging livestock business opportunities for Lao smallholders. To specify requirements for livestock export growth, product specifications imposed by existing and future customs and quarantine procedures at the border areas of Thailand, People's Republic of China, and Viet Nam need to be studied. Other physical and financial constraints on livestock marketing, such as lack of supporting infrastructures and access to credit and other financing sources, also need to be analyzed.

7. The TA and project will seek to ensure that the policy and regulatory environment encourages improvement of the livestock production system, favors development of private livestock entrepreneurs, and improves access to markets for smallholders by eliminating constraints and reducing transaction costs. The main policy and regulatory constraints on livestock production and trading are found in local government's applications and interpretations of policies and regulations. Provincial governments reportedly place ceilings on meat prices, establish quotas to restrict animal movements across provincial borders, and limit issuance of

⁴ The Forages and Livestock Systems Project of A\$3 million funded by Australian Agency for International Development (AusAID), managed by International Center for Tropical Agriculture (CIAT), and implemented by National Agriculture and Forestry Research Institute (NAFRI), Department of Livestock and Fisheries (DLF), and National Agriculture and Forestry Extension Service (NAFES) (July 2000–June 2005).

animal-trading licenses. Unnecessarily strict trade control with excessive border trade regulations and inefficient customs procedures seem to have caused avoidance of formal trade channels, which resulted in substantial volume of informal trading. The TA will help the Government (i) remove such policy and regulatory constraints to restore business incentives and the confidence of farmers and private entrepreneurs in the livestock sector; and (ii) promote development of private businesses in the essential service areas required for livestock improvement, including veterinary services, retail and wholesale supply of chemicals and antibiotics, and trading of live animals, to create a sustainable livestock development environment.⁵ The TA will also identify land-tenure issues constraining livestock development in the project area and identify ways to address them and enable sustainable and viable livestock development.

8. Potential disparities in distribution of economic opportunities, which may occur due to the existing variations in farm-resource use within a community and among ethnic groups, will be carefully examined, and the project design will maximize project benefits distributed to socially vulnerable groups such as ethnic minorities and women. Poor households typically have only a few chickens, ducks, and pigs for home consumption, and sell the surplus at local markets. Women often tend small livestock. Improving these animals' survival and productivity is likely to improve the household's nutrition and increase cash income from sales, providing a stepping-stone to building capital. Better feed technologies will also save women's labor and ensure better livestock production and environmental protection by reducing indiscriminate grazing. The initial social assessment is in Appendix 1.

9. As the livestock sector has promising growth potential and plays an important role in improving the rural poor's income and livelihood, ADB's assistance will (i) provide the Government with a viable means to reduce rural poverty, and (ii) create a favorable environment for private investments by removing major technical and regulatory impediments in the sector.

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

10. The objective of the TA is to help the Government prepare a project investment proposal to address major constraints in the livestock sector. The project aims to improve the income and livelihood of about 21,000 farming families⁶ by introducing animal health and productivity enhancement technologies, improving marketing opportunities and the regulatory environment, and encouraging the development of private livestock service providers.

B. Methodology and Key Activities

11. To achieve its objective, the TA will (i) review the livestock production systems, institutions, human resources, marketing, regulations, policies, financing, and fiscal expenditure

⁵ Private entrepreneurs engaged in trading, fattening, and processing of livestock are the major livestock buyers in the Lao PDR. They could become essential input suppliers and veterinary service providers for rural smallholders as these services would also benefit them by ensuring supply of better quality livestock for their business. As it promotes private service provider development, the Government is expected to play an essential role in (i) reducing transaction costs by eliminating regulatory constraints, and (ii) controlling the quality of such private services through licensing and inspections.

⁶ The project will be implemented in about 20 of 33 poor northern districts, and is expected to cover 36 villages in each district. The project coverage accounts for 32% of the total poor villages identified by the NPEP. The average number of households in a village is assumed to be 100, and 30% of the village population is expected to benefit from the project.

related to livestock development; (ii) develop feasible technical interventions and modalities for a participatory extension system that will reduce mortality and improve productivity of livestock; (iii) identify critical factors constraining market development and emerging business opportunities in the livestock sector; (iv) compile and evaluate detailed inventories of physical and human resources for livestock research, extension, marketing, and education; (v) evaluate past and ongoing external assistance for livestock development and identify lessons learned; (vi) examine alternative means and options to promote private livestock services providers; (vii) prepare detailed investment proposals suitable for possible ADB financing; and (viii) carry out institutional, environmental, social, financial affordability, economic, and estimated cost assessments for the investment proposals, and identify measures to prevent or mitigate possible risks associated with the proposals.⁷ The outline terms of reference for consultants are in Appendix 2. In developing a participatory extension system, the TA will conduct participatory diagnosis and design assignments with enthusiastic farmers in the selected districts. The expected TA outputs include (i) diagnoses of major diseases in the project area, (ii) capacity-building training for relevant government staff, (iii) production of extension materials suitable for the project area for animal health improvement and disease control measures, and (iv) recommendation of participatory extension modalities suitable for local conditions.

12. In line with the regional proposal of progressive zoning for transboundary animal disease control, the project area will consist of poor districts identified by the NPEP within the northern control and buffer zones.⁸ About 20 project districts will be selected during TA inception according to selection criteria, including (i) poor districts identified by NPEP, (ii) implementation capacity of districts, (iii) the degree of ownership and willingness of district government,⁹ (iv) absence of competing livestock development investment¹⁰ and potential synergy effects with other ADB assistance, and (v) market access.

C. Cost and Financing

13. The total TA cost is estimated at \$1.075 million equivalent, comprising \$650,000 in foreign exchange and \$425,000 equivalent in local currency costs. ADB will finance \$900,000, including \$650,000 in foreign exchange and \$250,000 in local currency costs, on a grant basis from the Japan Special Fund, funded by the Government of Japan. The Government will finance the balance of about \$175,000 equivalent in local currency costs to cover counterpart staff support, office accommodation, facilities for seminars and meetings, and local transport costs. Details of cost estimates and a financing plan are in Appendix 3. The Government has been advised that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

14. The Department of Livestock and Fisheries of the Ministry of Agriculture and Forestry will be the TA Executing Agency and provide all required office space and support. A project preparation unit, headed by a full-time and well-qualified project director, will be established in the department to supervise day-to-day TA activities in close coordination with the National

⁷ The proposed project is classified as an environment category B.

⁸ The control zone covers Houaphanh, Luang Prabang, Oudomxay, Phongsaly, and Xayaboury provinces; and the buffer zone covers Luang Namtha, Bokeo, and Xieng Khouang provinces.

⁹ At least one full-time staff needs to be assigned for the TA in each district, and six full-time staff for the ensuing loan project.

¹⁰ Areas with substantial investment in livestock activities, such as Oudomxay, supported by an International Fund for Agricultural Development (IFAD) project, and districts assisted by a European Union livestock project, will not be considered for the project unless the activities are clearly complementary.

Agriculture and Forestry Extension Services (NAFES) for livestock extension issues, and the National Agriculture and Forestry Research Institute (NAFRI) for livestock technical issues. A project steering committee headed by the vice minister of agriculture and forestry will be set up for (i) overall policy direction and guidance, (ii) coordination within the Government, (iii) resolution of outstanding TA implementation issues, and (iv) comments on major consultant outputs. In the project provinces and districts, a full-time staff in each provincial agriculture and forestry service office and a full-time staff in each district agriculture and forestry service office will be appointed to participate in TA activities.

15. The TA will be implemented in 9 months, commencing in March 2004, and require a total of 69 person-months of consulting services: 32 person-months international and 37 person-months domestic. As development of animal health and production improvement technologies and institutional design to disseminate these technologies require highly specialized technical expertise, the International Center for Tropical Agriculture (CIAT) and International Livestock Research Institute (ILRI) will undertake together the relevant TA tasks to ensure quality outputs.¹¹ For TA tasks outside the organizations' expertise, including marketing, social development, financial and economic analysis, and environmental analysis, individual consultants will be recruited in accordance with ADB's *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for engaging domestic consultants. The international institutional development specialist/ team leader from CIAT-ILRI will manage the consultant team and finalize the TA outputs together with the domestic deputy team leader. CIAT-ILRI will submit a simplified technical proposal to recommend a work program, approach, and methodology, and personnel schedule of TA implementation. The consultants' input and an indicative TA implementation schedule are in Appendix 4.

16. Project preparation under the TA will apply a participatory diagnosis and design approach involving all major stakeholders. At least three stakeholder workshops will be organized to discuss the draft project proposal at the inception, interim, and draft final stages. All equipment will be procured in accordance with ADB's *Guidelines for Procurement*.

IV. THE PRESIDENT'S DECISION

17. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$900,000 on a grant basis to the Government of the Lao People's Democratic Republic for preparing the Participatory Livestock Development Project, and hereby reports this action to the Board.

¹¹ CIAT and ILRI are willing to work together to implement the TA assignments. CIAT will be the focal point. The association of CIAT and ILRI has prepared investment project proposals for the AusAID's Forages and Livestock Systems Project in the Lao PDR and the Enhancing Beef Productivity, Quality, Safety and Trade in Central America Project. CIAT and ILRI are the only institutions in the Lao PDR that have the research competency and field experience to improve animal health and control disease. Both institutions have a good track record in delivering quality outputs for several ADB-supported programs, particularly the Review of the Livestock Sector in Lao PDR (ADB. 2002. *Review of the Livestock Sector in Lao PDR*. Manila.) that served as an essential background analysis required for the TA formulation.

SUMMARY INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis

Sector identified as a national priority in country poverty analysis? Yes	Sector identified as a national priority in country poverty partnership agreement? Yes
<p>The project, which will be prepared through the project preparatory technical assistance (PPTA), is in line with the Government's Socioeconomic Development Plan (2001–2005). The plan emphasizes the significance of livestock development, particularly in the north, as a strategic poverty reduction measure. The project will also support the Lao People's Democratic Republic (Lao PDR) National Poverty Eradication Program (NPEP). It focuses on four key sectors, including agriculture, and emphasizes community driven and access-oriented rural development, together with macroeconomic stabilization, public management, private sector development, and foreign investment. NPEP recognizes livestock diseases and productivity as a priority issue for the poor. The poverty reduction partnership agreement between the Lao PDR and Asian Development Bank (ADB) includes cooperation in improving agriculture productivity, through, among other areas, livestock development and commercialization.</p> <p>Agriculture accounts for approximately 52% of gross domestic product (GDP) with livestock and fisheries contributing 18%. More than 80% of the people depend on the agriculture and forestry sector for their livelihood, with most practicing subsistence farming. Among the subsistence farmers and smallholders, livestock is extremely important as source of wealth, draft power, livelihood, and income. Smallholders produce over 95% of all livestock, which is one of the most important sources of cash income for them. The importance of livestock, particularly for the poor was confirmed through ADB's participatory poverty assessment (PPA) undertaken in 2001. The poor considered livestock as an asset and safety net, to be sold when necessary.</p> <p>The PPA found that loss of livestock is one of the main causes of poverty, with 70% of those interviewed identifying livestock disease as a major problem. The poor in the north identified preventing and curing livestock disease as their first priority.¹ Loss of livestock due to disease is particularly high for small livestock such as chicken and pigs, with chicken mortality reported to be as high as 80%.² This disproportionately impacts women farmers and relatively poorer farmers who invest in smaller livestock. Loss of pigs is more devastating since high labor input is required to raise them. Raising large livestock such as cattle and buffalo is also difficult for the poor, given the high mortality rate of calves (30–40%), and low productivity.</p> <p>Given the importance of livestock as cash income for the poor, and taking into account the high mortality rates and low productivity of different animals, the opportunity to improve the livelihood of the poor by strengthening livestock production is significant. Since farm resource use varies within a community, the project should consider interventions that solve productivity issues of small and large livestock. Market opportunities for the poor to sell livestock for cash should also be considered. The PPTA will help assess the nature of current livestock production in villages, potential distribution of benefits among men and women farmers and different ethnic minorities, and demonstrate how project benefits would accrue to the poor.</p>	

B. Poverty Analysis

Proposed Classification: Poverty Intervention

What type of poverty analysis is needed?

The project will be implemented in northern Lao PDR, which has the highest incidence of poverty, at 52.5%; 45.0% of the total poor population live in this region.³ Life expectancy is one of the lowest at 57 years. Literacy is the lowest, at 59%—44% for women and 74% for men.³ Northern villages are particularly isolated, and some have no access to social services or markets, even during the dry season. Many people have no food security as yields are limited and high labor inputs required. Opium is still an important source of income for villagers, and 90% of opium is estimated to be produced in this region.³ Ethnic minority groups include the Akha, Hmong, Khmou, Lao, Lue, and Phounoy, among others.

To ensure the poverty focus of this project, the following will be reviewed: (i) socioeconomic status of project area; (ii) classification of potential beneficiaries based on poverty status; (iii) baseline situation of the farming systems (i.e. main crops grown for subsistence and for cash, livestock in the farming system, other key non-farm activities for

¹ ADB. 2001. *Participatory Poverty Assessment*. Manila.

² ADB. 2002. *Review of Livestock Sector in Lao PDR*. Manila.

³ Government of the Lao PDR. 2003. *National Poverty Eradication Program*. Vientiane.

livelihood and income, main inputs used by poor farm-households, and market opportunities); (iv) division of labor for different agricultural and livestock tasks and labor inputs at the household level; (v) constraints faced by women farmers including cultural barriers, legal constraint, social status, education, and status within the household; (vi) resource access/exclusion based on location, land tenure status, family size, gender, and ethnic group; and (vii) cultural, gender, and language differences that may be constraints. The information obtained will be used to ensure that the project design is poverty focused and that benefits are shared equitably given different poverty levels, gender, and ethnic minority groups.

C. Participation Process

Stakeholder Analysis Yes

A stakeholder analysis will be undertaken during the PPTA to determine the stakeholders and their roles, interests, and priorities. Stakeholders will likely include the national, provincial, and district level government officers; village communities; and the private sector. The specific needs and priorities of the poor, including women and ethnic minority groups will be further assessed through the socioeconomic survey and analysis.

Participation Strategy

The target beneficiaries must adopt and apply the practices and technologies introduced to improve animal productivity. Early community participation is critical. Such participation will actively engage target beneficiaries from the PPTA phase to ensure that the project design takes into account the socioeconomic context; interest and priorities in livestock husbandry by gender and ethnic groups; culture, gender, and language issues and other aspects. Given the important role of district officers in providing extension services and information to farmers, during the PPTA, a review should be taken to consider staff requirements and capacity building needs. District officers should be involved as much as possible during the PPTA phase in undertaking the poverty and social analysis of target beneficiaries.

The socioeconomic profile and feedback from village communities will be the basis for adapting information and technologies to fit the cultural and socioeconomic context, developing relevant and culturally appropriate materials and extension training packages, and determining appropriate approaches to extension work. The community participation plan is expected to be gender sensitive approach and consider differences between ethnic minority groups.

A social development specialist (international) together with a team of local consultants and national partners will undertake the socioeconomic survey and analysis, conduct participatory rural appraisals (PRAs), and develop the community participation plan for the project.

D. Gender

Strategy to Maximize Impacts on Women

Women and girls, in particular ethnic minorities, are the most disadvantaged in Lao society. Overall, women are less literate, less educated, and work longer than men, being primarily responsible for the family's well-being and engaged in other livelihood activities. Among the ethnic minority groups, women perform 70% of the agricultural and household tasks and have little access to labor saving devices, and to information.

Since they are mostly involved in raising small livestock, women should have the opportunity to participate in village activities to introduce practices and technologies for small livestock, which would increase productivity while reducing labor inputs. To reach women, especially the ethnic minorities and household heads, the extension and training modality, as well district officers' profile and capacity, including language skills, should be considered. The social development specialist, together with a team of local consultants is expected to review the constraints on women's participation through socioeconomic survey and analysis, and conducting PRAs. The community participation plan will include measures to promote equitable participation of women in project activities.

E. Social Safeguards and other Social Risks

Subject	Significant, Not Significant, None	Strategy to Address Issues	Plan Required
Resettlement	Unknown	Land acquisition may be a possibility.	TBD
Affordability	None	Steps will be taken to ensure that project credit schemes are accessible to, and reasonable for, poor men and women farmers regardless of their ethnic group.	No
Labor	None	A key issue for poor farmers, especially women, is the time required for agricultural production activities. Practices and technologies introduced to improve animal productivity at the village level will be labor-saving ones.	No
Indigenous People	uncertain	Category B. The project design and implementation will be based on detailed social analysis and participatory approaches. The participatory process will ensure men, women, and ethnic minorities will have equal opportunities to be involved in project activities and benefit from them.	An ethnic minority development plan or a community participation plan with specific provisions for ethnic minorities as will be prepared as necessary.
Other Risks/ Vulnerabilities	None	Key project stakeholders will be consulted at all stages of project preparation. Villages and district officers will be actively engaged from an early stage to build and establish commitment and ownership of the project, thus enabling potential risks and vulnerabilities to be addressed early on.	No

OUTLINE TERMS OF REFERENCE

A. Terms of Reference for the Association of International Center for Tropical Agriculture-International Livestock Research Institute

1. The association of International Center for Tropical Agriculture-International Livestock Research Institute (CIAT-ILRI) will analyze technical, institutional, and regulatory issues of livestock development; manage the consulting team comprising the association and individual consultants; and formulate an investment package in order to (i) reduce mortality and improve productivity of livestock production, (ii) expand and improve marketing opportunities for livestock of smallholders, and (iii) promote the development of private service providers in essential areas of livestock production and marketing system. The consulting team will be led by the international institutional development specialist (team leader), who will have substantial experience in developing investment projects, and the domestic participatory extension specialist (deputy team leader). The primary responsibilities of the team leader are to (i) lead the consultant teams in reviewing livestock development policy and poverty reduction strategies and assessing the constraints and opportunities in light of policy, institutional, technical, market, social, environmental, and financial conditions to develop appropriate investments; (ii) in conjunction with the other consultants, formulate a participatory livestock development project to improve animal health and productivity and marketing opportunities of livestock, including objectives, components, implementation arrangements, project cost estimates, and project benefits and impacts; and (iii) refine a project framework. Supervised by CIAT-ILRI, the consulting team will (i) assess the existing livestock production systems, livestock trade, and relevant private business in the sector, confirm constraints identified in the Lao livestock sector review,¹ and identify areas where investment is needed to remove constraints in selected project districts in the northern region; (ii) review the current institutional arrangements, human resources, and regulatory and policy environment for developing sustainable livestock production and trading at the national, province, district, and village levels in order to identify appropriate improvement measures; and (iii) prepare an investment project (the project) to address the identified issues.

2. Before fielding the main group of consultants, CIAT-ILRI will (i) assess the lessons from similar livestock development interventions in the Lao People's Democratic Republic (Lao PDR) and other countries, and suggest a project design incorporating the lessons; (ii) develop a detailed strategy of how to actively involve the national, provincial, and district governments; farmer representatives; and private sector in implementing the technical assistance (TA); (iii) prepare a detailed work plan to arrange consultants' inputs and implementation logistics; (iv) identify and collect baseline data for indicators that can be monitored, from secondary information (e.g., districts, villages, population, ethnicity, road and market access, access to social services, poverty levels); (v) select the project districts according to the selection criteria; and (vi) organize an inception workshop with representatives of major stakeholders to develop a common vision to develop the project (including goals, outputs, expected impacts, project areas, types of interventions, participatory extension approach, and staffing and capacity-building needs at the province, district, and village levels). The funding of these preparation activities will be included in the inception report and discussed with the Government and ADB for endorsement at the inception tripartite meeting.

3. In close consultation with the Ministry of Agriculture and Forestry, CIAT-ILRI will conduct the TA assignments in a fully participatory manner through stakeholder workshops at various

¹ ADB. 2002. *Review of the Livestock Sector in the Lao PDR*. Manila.

levels as appropriate. The Department of Livestock and Fishery and consultants are responsible for the logistics for seminars and workshops. CIAT-ILRI will be responsible for compiling the findings of the entire consultant team and reporting, and will submit (i) a CD copy and 10 hard copies each of the inception report (end of the first month), (ii) interim report (end of the fifth month), and draft final report (end of the eighth month), and (iii) a CD copy and 20 copies of the final report (end of the ninth month). The draft final and final reports will include a 5–10-page executive summary. Each report will include a project framework as the fundamental working document to help refine the project design, and incorporate comments from the Government, ADB, and other stakeholders. Brief monthly progress reports highlighting key issues and project design will also be required when other reports are not due.

1. Institutional Development Aspect (9 person-months international)

- (i) Assess the capacity of all relevant government institutions, the private sector, and community-based organizations to help implement the project, then determine training needs and develop a training strategy and detailed plan to build the capacity of the extension service to deliver livestock and marketing interventions to smallholders.
- (ii) Assess the capacity of districts, provinces and national institutions to carry out and support participatory extension in the project area, including the ability to work effectively with the poor, ethnic minorities and women.
- (iii) Assess the need for additional extension staff and subject matter specialists in districts and provinces in the project area and develop criteria to recruit additional staff, particularly women and ethnic minority extension workers.
- (iv) Develop a project performance monitoring system according to ADB guidelines.

2. Animal Health, Productivity, and Veterinary Aspects (6 person-months international, 12 person-months domestic)

- (i) Identify interventions for (a) increased pig production with a focus on control of swine fever, (b) reduction of buffalo calf mortality, (c) improved calf-cow management of cattle, (d) finishing cattle for sale, (e) increased poultry survival, and (f) increased goat production by reducing mortality.
- (ii) Review animal husbandry, management practices, and fodder and pasture development building on experience of the past livestock projects in the Lao PDR,² confirm the main constraints identified in the Lao livestock sector review and define feasible interventions in consultation with interest groups in a cross section of representative villages. Produce a report of the consultants' combined findings and provide written material suitable for inclusion in a working manual of technology intervention options designed for use by district extension workers.
- (iii) Estimate additional costs, benefits or savings of the proposed interventions to enable a cost and benefit analysis by finance and economic specialists.
- (iv) Conduct a diagnostic survey and describe the main livestock diseases. A diagnostic survey will be carried out to confirm the main diseases causing mortality and limiting livestock productivity in the project area. A field survey

² Including the Forage and Livestock System Project of Australian Agency for International Development (AusAid), the livestock development projects of the European Union, ADB's Shifting Cultivation Project, the livestock project of German Agency for Technical Cooperation (GTZ), and livestock development components of Agence Francaise de Developpement's projects.

team will visit representative villages to conduct a participatory survey on animal health issues, collect samples for diagnostic analysis at the National Animal Health Center and Department of Livestock and Fishery, and provide descriptions and a photographic record of the main diseases.

- (v) Identify the need for provision of clean water supply systems, which are essential to reduce livestock disease. Suggest options for provision of farm water supply by reviewing experience and by visiting representative villages in the project area, and provide alternative design and cost options to improve farm water supplies.

3. Participatory Extension Aspect (7 person-months international, 9 person-months domestic)

- (i) Develop a participatory extension strategy and recommend participatory extension modalities and funding requirements to deliver technology interventions to smallholder farming communities in a manner that all households in the community benefit. The strategy will be based on a comprehensive review of experiences with participatory extension approaches in the agricultural and livestock sector in the country and developed in collaboration with the National Agriculture and Forestry Extension Service and provincial and district governments.
- (ii) Evaluate and agree on the proposed extension plan in workshops and consultations with stakeholders from national, provincial and district governments.
- (iii) Assess private business establishments in the sector and propose options to disseminate information through private sector channels in addition to the government extension service.
- (iv) Conduct required training at the district and village levels, carry out participatory diagnosis and consultation with farmers, and test the proposed technical options in the field.
- (v) Prepare working manuals detailing technology interventions and the participatory extension strategy for use in training and as reference material for extension workers. The manuals will be based on materials produced by the consultants developing technology interventions and the participatory extension plan. The manuals will enable the project to immediately commence training of extension workers and introduction of technologies to farmers.

B. Terms of Reference for Individual Consultants

1. Social Development Specialists (3 person-months international, 8 person-months domestic)

- (i) Based on the collected secondary information, identify essential questions, design a concise questionnaire, conduct a socioeconomic survey, and prepare the analysis report. The outputs of the survey and analysis are the following: (a) socioeconomic information of the communities in the project area; (b) participatory rural appraisal results in representative sample villages; (c) poverty and social analysis including needs, demands, absorptive capacity, constraints of the beneficiaries and stakeholders, based on ADB's *Handbook on Poverty and Social Analysis*; (d) gender analysis; (e) project impact analysis, with

particular attention to labor requirements of each social group, and (f) analysis of ethnic minority issues, which would be the basis for a separate ethnic minority development plan, if required, based on the socioeconomic survey and analysis report.

- (ii) Prepare a community participation plan. It will include policy and institutional requirements, resource and capacity-building needs, culturally appropriate communication measures, and other external support that may be required for equitable and effective participation of men and women farmers, and ethnic minority groups.
- (iii) Assess the current and potential land tenure issues for expanding livestock production in the project area, and recommend options or measures to solve problems, keeping in mind lessons from ongoing and past rural development initiatives.

2. Environment Specialist (2 person-months international)

- (i) Review the Environmental Protection Law and environment decrees and regulations to identify the roles and responsibilities of stakeholders in mitigating potential environmental impacts.
- (ii) Assess the human resource and institutional capacity of the Science, Technology, and Environment Agency; Ministry of Agriculture and Forestry; and provincial and district government agencies to carry out an initial environmental examination (IEE) and monitor environmental impacts.
- (iii) Propose capacity building needed for effective and efficient environmental management.
- (iv) Assess the project's potential environmental impacts of the project with particular attention to waste management issues (odor, water pollution, and pests and insects); soil; and vegetation (introduction of new species and pasture development).
- (v) Based on the project impact assessment, prepare (a) an IEE for each representative project activity, (b) summary IEE to describe the environmental impacts of the project as a whole and mitigation measures, and (c) an environmental management plan (EMP) to ensure that mitigation measures will be implemented and relevant government agencies will adequately monitor the project's environmental impacts.

3. Marketing and Commercialization Specialists (3 person-months international, 4 person-months domestic)

- (i) Review past and present initiatives to promote marketing livestock commodities and developing business opportunities, assess their success, and determine possible areas for ADB support.
- (ii) Conduct participatory workshops and seminars with a wide range of participants engaged in livestock business to obtain feedback on deficiencies in the livestock marketing systems that inhibit efficiency and profitability, and recommend changes in the policy and legal framework to improve the enabling environment for livestock development.
- (iii) Assess the livestock business sector from input distribution to production, fattening, and trading to identify significant constraints (inefficiencies, barriers to

entry, licensing of traders, price controls, factors inhibiting profitability) and potentials; and recommend measures to remove the constraints and to effectively improve their business incentives and potential to expand and scale up business. Particularly, analyze the potential to develop private suppliers of essential chemicals and other inputs (e.g., pharmacies in each district), and private veterinary services for livestock production (e.g. training and licensing private veterinarians).

- (iv) Analyze the marketing chains for livestock trade in the Lao PDR and neighboring countries, identify emerging livestock business opportunities in the region for Lao smallholders; and estimate the impacts of various inefficiencies, barriers, and official and unofficial charges and practices on costs and profits of commercial livestock production and trade.
- (v) Assess the need for improved market information systems at the project and village levels to help smallholders identify market opportunities and for infrastructure investments to improve market access for smallholders. If required, prepare an investment proposal for vital infrastructures and develop a resettlement plan in accordance with the ADB's resettlement policy.
- (vi) Analyze current financing arrangements for smallholders to start up new animal production, input purchase, and other production and trading costs, and recommend measures to remove constraints on accessing financing sources.
- (vii) Assess the demand for livestock both in the domestic market and neighboring countries, and identify emerging business opportunities for smallholders in the Lao PDR. Analyze the existing and future custom and quarantine procedures at the borders of the Lao PDR, Thailand, People's Republic of China, and Viet Nam, and recommend strategic measures to expand export opportunities for Lao smallholders.
- (viii) In conjunction with other consultants formulate a marketing improvement component required to expand business opportunities for livestock producers and to increase efficiency in trading livestock commodities, specifying options of project activities, implementation arrangements, project cost estimates, and estimated benefits and impact.

4. Finance and Economic Specialists (2 person-months international, 4 person-months domestic)

- (i) Assess the factors influencing comparative and competitive advantage of livestock commodities and recommend measures to enhance competitiveness.
- (ii) Analyze transaction costs of delivering services and accessing markets.
- (iii) Prepare a detailed financial and economic analysis, including risk analysis and least cost analysis, for each project component and the project as a whole following ADB's *Guidelines for the Economic Analysis of Projects*.
- (iv) Assess the financial management capacity of institutions that are relevant to the project implementation, and evaluate the financial affordability and sustainability of proposed project activities.
- (v) Prepare a poverty impact assessment for the with- and without-project situations, including a distributional analysis of the impact.
- (vi) Prepare project cost estimates and financing plans using COSTAB software.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	512	0	512
ii. Domestic Consultants		111	111
b. International Travel	40	0	40
c. Domestic Travel			
i. Domestic Airfare		5	5
i. Vehicle Rentals/ Running Costs		20	20
d. Reports and Communications	0	25	25
2. Equipment			
a. Four-Wheel Drive Station Wagon	25	0	25
b. Office Equipment	10	5	15
3. Workshops/Stakeholder Consultations		15	15
4. Socioeconomic and Livestock Surveys	0	45	45
5. Representative for Contract Negotiations	4	0	4
6. Contingencies	59	24	83
Subtotal (A)	650	250	900
B. Government Financing			
1. Office Accommodation and Transport	0	40	40
2. Remuneration and Per Diem of Counterpart Staff	0	50	50
3. Information/Data Collection		25	25
4. Local Transport and Communication	0	30	30
5. Translation		30	30
Subtotal (B)	0	175	175
Total	650	425	1,075

^a Funded by Asian Development Bank's (ADB's) technical assistance funding program.
Source: ADB estimates.

INDICATIVE IMPLEMENTATION SCHEDULE

Phases		Phase I		Phase II					Phase III	
Activities		Draft work plan		Define technology interventions					Completion of feasibility study and investment proposal	
		Site and stakeholder identification		Develop participatory extension strategies						
		Rural appraisal and social assessment		Conduct market studies						
		Baseline data collection		Prepare working manuals for technology interventions						
Month		1	2	3	4	5	6	7	8	9
A. The CIAT-ILRI Association										
1. International Consultants (person-months)										
a. Institutional Development Specialist /Team Leader (9)										
b. Animal Health Specialists (1.5)										
c. Livestock Management Specialists (2)										
d. Village Poultry Specialist (1)										
e. Animal Nutrition Specialist (1)										
f. Forage and Fodder Specialist (0.5)										
g. Smallholder Livestock Development Specialists (5)										
h. Participatory/Systems Extension Specialist (2)										
2. Domestic Consultants (person-months)										
a. Participatory Extension Specialist /Deputy Team Leader (9)										
b. Animal Health Specialist (3)										
c. Nutrition, Feed, Management Specialists (5)										
d. Rural Water Supply Specialist (4)										
B. Individual Consultants										
1. International Consultants (person-months)										
a. Social Development Specialist (3)										
b. Marketing and Commercialization Specialist (3)										
c. Finance and Economic Specialist (2)										
d. Environmental Specialist (2)										
2. Domestic Consultants (person-months)										
a. Social Development Specialist (8)										
b. Finance and Economic Specialist (4)										
c. Marketing and Commercialization specialist (4)										
Workshops										
ADB's Review Missions and Tripartite Meetings										
Reports										

CIAT – ILRI = International Center for Tropical Agriculture-International Livestock Research Institute.