

SECTOR ASSESSMENT (SUMMARY): AGRICULTURE, NATURAL RESOURCES, AND RURAL DEVELOPMENT (LIVESTOCK SUBSECTOR)¹

A. Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. In 2013, agriculture, natural resources and rural development (ANR) contributed 24% of gross domestic product (GDP) and 65% of employment in the Lao People's Democratic Republic (Lao PDR). Rice accounts for about 25% of GDP and 67% of the caloric intake of the rural population. Livestock and fish make up 10% of GDP, and forestry 8%. Despite the importance of the sector, more than 50% of households in the country are subsistence farmers with incomes below \$300 per household per year. National food self-sufficiency was achieved in 2000, but recent estimates suggest that only about 30% of the rural population is actually fully food secure, especially in view of the actual and potential impact of drought on mainly rain-fed agriculture production. While women are active in ANR activities and account for 54% of the work force, gender gaps exist in extension services, market information, and financial services.

2. The livestock subsector is an important source of income and store of wealth for rural households, with 89% of farm households owning one or more types of livestock: buffalo, cattle, pigs, goats, poultry, and occasionally other small livestock. Productivity of the traditional livestock production systems, which are still widespread, is low and livestock are kept as a store of wealth. Livestock are particularly important in the northern provinces, where the terrain is mountainous and food crop agriculture is based on unsustainable shifting cultivation. Smallholder farmers dominate livestock production with approximately 95% of national animal ownership. They operate mixed farming systems. Feeding of animals includes fallow cropland; communal areas along roads, rivers, areas around fields and villages; dedicated grazing land; secondary forests; and other noncropped communal land. Crop byproducts such as rice straw are also fed to ruminants. Commercial livestock production has developed only around major population centers such as Vientiane, supplying meat, eggs, and milk to the urban population.

3. **Key problems.** Growth in the livestock subsector is hampered by the low level and quality of production and the condition of its value chain. Key constraints are limited producer capacity, livestock disease and other causes of mortality, poor animal husbandry, limited access to quality feed, fragmented market infrastructure with limited processing systems and facilities, lack of credit and services, lack of product standards, insufficient legal framework, and information failures across supply chains.

4. **Food safety.** Factors contributing to food safety concerns from livestock products include inadequate access to clean water, increased use of pesticides and chemicals in agriculture and food processing, food adulterants, and lack of producer and consumer education. Rapid growth of the urban population and lengthening of local food supply chains without cold chain and hygiene aggravate food safety problems. While the domestic legal framework may be adequate, the implementing regulations may not all be effective and their implementation is not yet

¹ The summary is based Asian Development Bank (ADB). 2014. *Northern Smallholder Livestock Commercialization Project*. Consultant's reports (Value Chain and Agribusiness; Farming Systems; Food Safety). Manila (TA 8558-LAO); W. Stur and P. Phengsavanh. 2014. *Lessons Learnt from the Northern Livestock Development Project and Assessment of Livestock Value Chains in Northern Lao PDR*. Vientiane: International Fund for Agricultural Development. The summary also uses findings from ADB. Completion Report: *Northern Region Sustainable Livelihoods through Livestock Development Project in the Lao People's Democratic Republic*. Manila (draft).

sufficiently coordinated among responsible agencies.² In addition, human resource skills, operating budget, and facilities are not adequate to carry out the actual monitoring, surveillance, and enforcement.

5. **Capacity constraints.** Provincial and district authorities appear to have little or no knowledge of internationally recognized food safety management system standards including HACCP³ and ISO 22000. Some provincial training is available for food safety for the hospitality industry, no training is provided for food processors, and no training providers are accredited to train and certify personnel in HACCP and ISO 22000 system design and auditing. Analytical laboratory facilities and trained staff for food safety analysis of livestock products are absent or inadequate, especially for the necessary assessment of (i) pathogens, and (ii) permissible levels of contaminants and residues antibiotics, heavy metals, and chemical and other contaminants.

6. **Constraints in meat processing.** Abattoir design, construction, and operation are traditional and do not meet regulations for hygiene, environment, and animal welfare. Observations of existing provincial and district abattoirs identified several features that are critically noncompliant to food safety, including unsealed, cracked, and broken cement slaughter floors; wooden butchery benches; open air facilities without insect screens; inadequate drainage and treatment of waste; unsanitary water used in cleaning and processing; inadequate separation of live animal, slaughtering, and processing; inadequate lighting; inadequate provision for animal welfare (holding pens, drinking water); soil contamination from unsealed transport access; absence of chilling and cold chain; inadequate cleaning operations; and absence of records of daily cleaning.

7. **Rural finance.** Unsatisfied credit demand represents about 7 times current borrowings; the unmet demand is mainly for seasonal credit from poorer households.⁴ The Agricultural Promotion Bank lends to less than 5% of the rural population. Microfinance organizations may offer some hope for the future.

8. **Subsector opportunities.** In the domestic market, beef and pork account for around 80% of meat consumed. Domestic demand for meat is increasing due to the growing population and rising incomes, especially in urban areas. This demand is strengthened by the influx of foreign businesses, e.g., mining and hydropower. In export markets, buffalo and cattle from the Lao PDR are in demand, particularly in the People's Republic of China, Thailand, and Viet Nam. Farmers have no difficulty selling their livestock, but traders are unable to source enough animals to supply the urban markets and find it easier to source supplies from Thailand. This poses a risk that rural smallholders will become excluded from supplying the urban meat market, where demand is highest.

9. Value chain analyses indicate that smallholders engaging in market-oriented livestock production are disadvantaged by poor access to input supplies and services, lack of market linkages and information, long marketing chains, low sale volume, and at some locations depressed prices caused by local government policies. One of the most critical next steps for smallholder livestock development and commercialization is to link farmers to markets and

² The relevant legal documents for livestock food safety are the National Food Safety Policy No.020/MoH, the Veterinary Law (2008), and the Food Law (2013).

³ Hazard analysis and critical control point (HACCP) is a system that identifies, evaluates, and controls hazards that can significantly impact food safety.

⁴ B. Coleman and J. Wynne-Williams. 2006. *Rural Finance in the Lao People's Democratic Republic: Demand, Supply, and Sustainability. Results of Household and Supplier Surveys*. Manila: Asian Development Bank and Asian Development Bank Institute, Financial Reform and Strengthening Initiative.

market information to provide incentives for farmers to improve production systems. Farmers, traders, and extension workers need to understand market demand and farmers need assistance with improving their production systems to achieve the required quality.

10. Optimizing the efficiency of smallholder livestock value chains and fostering higher incomes for producers require four key interventions: (i) channeling support into production clusters to achieve a critical mass of production that attracts the interest of investors and traders, (ii) increasing the production capacity of smallholders through the use of smallholder inclusive business models, (iii) developing producer organizations to improve market linkages on a commercial basis, and (iv) improving quality along the supply chain to add value.

2. Government's Sector Strategy

11. To meet the Seventh National Socio-Economic Development Plan, 2011–2015 target of 8% annual growth by 2015, the ANR sector is expected to contribute 4% of the growth. The Strategy for Agricultural Development, 2011–2020 identifies two key objectives: (i) modernize lowland market-oriented agriculture production adapted to climate change, with a focus on smallholder farmers; and (ii) conserve upland ecosystems, ensuring food security and improving the livelihoods of rural communities. The current strategy is being updated with targets set for 2025 and the development of the Vision for Agriculture 2030. Livestock targets for 2020 are overall meat, fish, and egg consumption of 65 kilograms (kg)/person/year, of this 20% is pork (13 kg/person/year); 14% is poultry (9 kg/person/year); and 6% is beef (4 kg/person/year). Almost half of the per capita consumption is expected from fish (30.6 kg/person/year). By 2025 the consumption of animal products is expected to increase to 70 kg/person/year, with a similar breakdown of different meat consumption. The strategy has a target for export of cattle of at least 10,000–15,000 tons in 2020, and 15,000 tons in 2025.

12. **Food safety and sanitary and phytosanitary issues.** Measures for food safety in the government's plans include upgrading and improving the standard of slaughterhouses, meat inspections, butchering, packaging, transportation, and wet markets. Current country regulations on feed standards, livestock health, and livestock-based product standards appear to be adequately formulated and aligned with international standards. The Ministry of Health (MOH) recently passed the Law on Food. It provides a regulatory environment that will have a strong impact on the livestock value chain. However, many improvements are needed in the livestock value chain to enhance public health through good quality food and good processing practices. MOH and the Ministry of Agriculture and Forestry (MAF) are responsible for sanitary and phytosanitary issues. MAF's Department of Agriculture is responsible for plant health and the Department of Livestock and Fisheries for animal health. Various MOH and MAF offices share responsibility for food safety. Safe use, and levels of, veterinary drug residues; proper formulation of veterinary drugs and animal feed; and safety of animal and fish products are food safety concerns shared with the Department of Livestock and Fisheries.

3. ADB Sector Experience and Assistance Program

13. ADB has been a long-standing partner of the government in its sector development. ADB assistance in the ANR sector is aimed at improving rural productivity and food security, and enhancing natural resource productivity and climate resilience. Ongoing projects are successfully supporting the strengthening of green value chains, agricultural commercialization, and agribusiness linkages with smallholders. The project will complement other ADB initiatives to improve trade in the Greater Mekong Subregion (GMS) including (i) the Core Agricultural Support Program (Phase 2) for food safety, linkages to cross-border value chains, and livestock

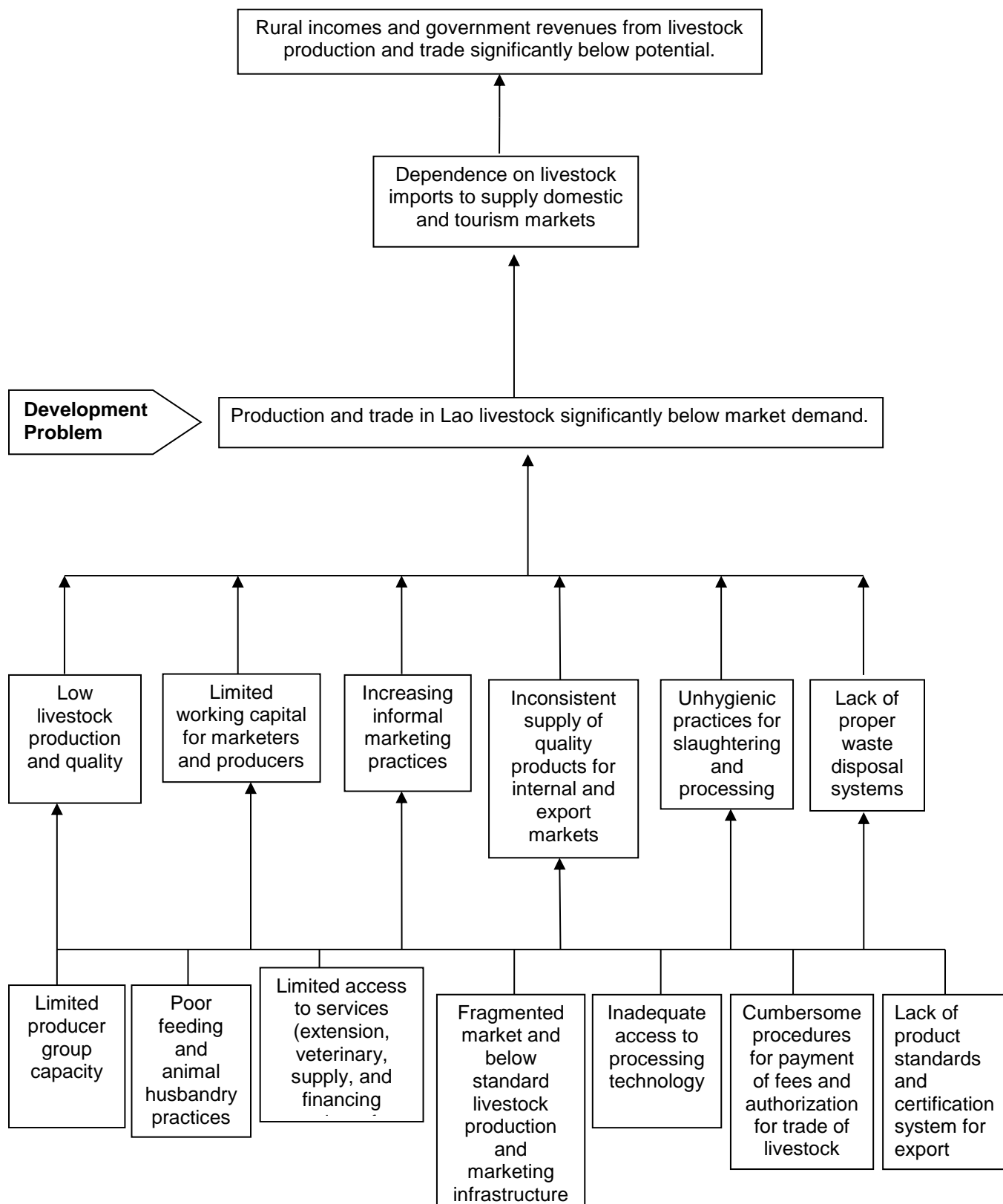
management;⁵ (ii) the Trade Facilitation: Improved Phytosanitary Handling in GMS Trade Project, for developing cross-border trade; (iii) the Governance and Capacity Development in Public Sector Management Program (Subprogram 1); and (iv) the GMS Tourism Infrastructure for Inclusive Growth Project, currently under preparation for approval in 2014.

14. ADB, together with the International Fund for Agricultural Development (IFAD) and the Swiss Development Cooperation, supported the government with the Northern Region Sustainable Livelihoods through Livestock Development Project (LDP). The LDP was implemented from 2007 to 2014 in 18 districts. It aimed to reduce poverty by improving the sustainability of livelihoods for upland smallholders in northern Lao PDR. The LDP's components included (i) improving on-farm livestock production technologies, (ii) developing market efficiency and livestock enterprises, (iii) strengthening participatory extension networks, (iv) supporting effective community-driven development, and (v) strengthening project implementation management. The project covered 18 districts in the provinces of Bokeo, Houaphanh, Luang Namtha, Luang Prabang, and Xiengkhouang, where it specifically targeted its interventions to be inclusive of women and disadvantaged upland ethnic groups. The LDP created about 1,600 livestock production groups comprising 13,070 households and including both husband and wife in almost all cases.

15. **Lessons.** While the LDP's approach to smallholder livestock extension and smallholder development was considered technically sound, the project's design had several shortcomings. It mixed intensified, commercially oriented livestock production with village infrastructure, targeted poverty reduction, and the establishment of a new microfinance provider. The market and enterprise development component did not adequately reflect existing market conditions in the project area, and hence the timing of the component was premature. The LDP experience provides opportunities and lessons that the proposed project can build on, including (i) build on momentum created by the LDP by focusing assistance on farmers identified as star performers with the potential for, and commitment to, greater commercial development; (ii) focus design on activities and components directly related to core outcomes (social outcomes should be fully integrated with and adequately financed by the core project); and (iii) investigate vaccine availability in district channels and consider supporting private traders who have interest in delivering vaccines, medicines (e.g., for deworming calves), and vaccination services.

⁵ ADB. 2012. *Technical Assistance for Implementing the Greater Mekong Subregion Core Agriculture Support Program (Phase 2)*. Manila.

Problem Tree for Agriculture, Natural Resources, and Rural Development Sector (Livestock Subsector)



Source: Asian Development Bank.

Sector Results Framework (Agriculture, Natural Resources, and Rural Development, 2012–2016)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes supported by ADB	Indicators with Targets and Baselines	Outputs Supported by ADB	Indicators with Incremental Target (baseline zero)	Planned and Ongoing ADB Operations	Main Outputs Expected from ADB Interventions
Outcome 1: Improved rural productivity and food security	Paddy production increased from 3.1 million tons in 2009 to 4.2 million tons in 2016	Irrigation facilities, rural roads, post-harvest facilities, and inclusive supply chain logistics expanded and maintained	359,000 ha of irrigated area improved by 2016 500 km of rural access road rehabilitated	Pipeline Projects Northern Smallholder Livestock Commercialization Project (2014, \$21 million) Ongoing Operations Northern Region Sustainable Livelihoods through Livestock Development Project (2006, ADB: \$10 million, Swiss Agency for Development and Cooperation: \$3.5 million, IFAD: \$3 million, Japan Fund for Poverty Reduction: \$0.7 million) Sustainable Natural Resource Management and Productivity Enhancement (2009, ADB: \$20 million, IFAD: \$15 million) Northern Rural Infrastructure Development Sector (2010, \$23 million) Nam Ngum River Basin Development Sector (additional financing, 2011, \$5 million) Smallholder Development Project (additional financing, 2011, \$5 million) GMS Biodiversity Conservation Corridor Project (2010, \$20 million) Trade Facilitation – Improved Sanitary and Phytosanitary Handling in GMS (2012, \$25.75 million) GMS Flood and Drought Risk Management and Mitigation Project (2012, \$37 million) National Integrated Water Resources Support Project (2011, ADB: \$0.3 million, Spain: \$0.6 million, Australian Agency for International Development: A\$3.2 million) GMS East-West Economic Corridor Agriculture Infrastructure Project (2013, \$60 million)	Producer and water groups formed and trained Irrigation facilities developed and maintained Value chain developed through improved rural access, transport and mobility, particularly linking to the existing regional transport corridors Improved agriculture, natural resources and rural development policy including environmental safeguard Land use planning maps prepared and in use Increased number of women with access to credit, technology, and other support related to agricultural production River basin plans established and implemented in 5 basins with flood forecasting and early warning center established Green agriculture productivity expanded; barriers to trade eliminated; regional trade initiatives promoted
	Meat and fish production increase from 281,000 tons or rate of consumption of 45 kg/person/year in 2009/10 to 379,000 tons, rate of consumption 53 kg/person/year in 2014/15	Improved livestock management system, production groups, and inclusive supply chain established and supported	98,100 tons of meat and fish produced 53 kg of meat & fish consumed/person/year		
Outcome 2: Enhanced natural resources productivity and climate resilience	Land management plan developed for the entire country (paddy land & upland rice land)	Village land use planning expanded Village land allocation is completed	Planning completed for 735 additional villages 108 villages completed		
	River basin management strengthened in at least 5 basins by 2015	River sub-basin planning extended	River sub-basin plans developed in 9 sub-basins		
	Strengthened farmer organizations for improved productivity, diversification and commercialization	Farmer groups and associations established and supported	Target not defined by Ministry of Agriculture and Forestry		

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, ha = hectares, IFAD = International Fund for Agricultural Development, kg = kilograms

Sources: Asian Development Bank; Agricultural Master Plan 2011-2015; Department of Irrigation; Ministry of Agriculture and Forestry; 7th National Socio-economic Development Plan (2011–2015); Department of Agriculture Land Management.