SECTOR ASSESSMENT (SUMMARY): AGRICULTURE, NATURAL RESOURCES AND ENVIRONMENT[1]

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. **By 2010, agriculture's share of gross domestic product (GDP) was 20%** but is declining, while output is expanding and the sector remains a key contributor to exports (accounting for 25% of export value) and employment (70% of rural households). Although agriculture is increasingly becoming a part-time activity, the sector continues to provide a safety net for rural people in Viet Nam. Rice continues to dominate production. From 1990 to 2008, the area under rice cultivation grew by about 20%, but national production almost doubled. By 2008, in addition to 6.6 million hectares (ha) of rice, over 3 million ha are planted in perennial crops, and over 2.1 million ha in annual crops.[2] Farm incomes are often supplemented by livestock production, which may make up a large part of household incomes. Forestry accounts for only 1% of 2008 GDP, although it plays a crucial role in environmental stability and ecological sustainability. Fisheries constitute about 4% of GDP, with aquaculture production by the private sector growing rapidly. Agriculture trade growth has been substantial, but remains dominated by commodities.

2. **There is significant regional diversity in the country's farming systems, and numerous resource-based challenges to production** (including climate change). Rapidly emerging environmental problems are highly complex. Lowland challenges include floods, droughts and susceptibility to catastrophic weather events such as typhoons, while upland challenges include poor soils, difficult terrain and high levels of erosion. Conversion of land to urban and industrial uses further reduces the already limited amount of arable land (28% of the total) and contributes to small average farm sizes. Groundwater levels are declining, and industrial contamination of land and water resources is increasing. Despite a strong reforestation program, the remaining natural forests are being degraded and lost at a steady rate. Viet Nam's high level of biodiversity is threatened, and consequently the survival of many species may increasingly be at risk. Anticipated climate change impacts include: (i) flooding and salinity intrusion in the lowlands, and increased droughts during the dry season; (ii) increased temperatures, leading to increased water needs for agriculture; (ii) variable stream flows; (iv) increased incidence and prevalence of pests and diseases; (v) changes to planting patterns and cultivation calendars; (vi) increased forest fires; and (vii) rising sea levels, which may potentially reduce rice production by 7%, and will reduce mangrove areas.

3. **Agriculture is the only production base available to the poor, and rural women are usually poorer than men,** with the majority of rural women working as farmers. In addition, women are overwhelmingly responsible for the majority of housework tasks, typically working 10–12 hours more per week than men. The poorest people in Viet Nam tend to be: (i) members of ethnic minorities, whose livelihoods depend on both subsistence agriculture and forest resources; (ii) people living in remote, often upland, areas with increasingly degraded natural resources; (iii) people living in coastal areas, which are more prone to extreme climatic events; (iv) households headed by women or with disabled members; and (v) migrants or landless people without resources.

4. **Limited private sector incentives and opportunities.** There are over 500 state-owned enterprises engaged in operations in the agriculture, natural resources and environment (ANRE) sector, and these stifle private sector opportunities; the majority of small businesses face

[1] This summary is based on Viet Nam Agriculture, Natural Resources and Environment Strategy, Assessment and Roadmap (February 2012). Available on request.

[2] The main perennial crops are coffee, tea, rubber, cashews, sugarcane, cotton and pepper; the main annual crops maize, sweet potato, soybean and peanuts; and the main commodities rice, pepper, coffee and aquaculture products.

difficulties in accessing both capital and technology. The 2003 Land Law clarifies the rights of land users and lays out a framework for modern land administration, but cadastral records (including maps) are largely incomplete. The expansion of finance institutions has been impressive, but a large proportion of rural poor still lack access to institutional financial services, especially in mountainous and remote areas.

5. **Weak sector planning and technical administration.** There is inadequate use of economic techniques for valuation of natural resource impacts. There are no systematic mechanisms for assessing the costs and benefits of new policies and regulations, and legislated reforms are often underfunded. The capacity for legal drafting is weak, with lengthy delays in issuing enabling legislation (e.g., a revised water resources law and forestry policy). Systemic problems remain in recruiting, retaining, and rewarding high-quality staff. The need to address food and biosafety issues is increasingly urgent, given increasing agriculture trade, intensifying transboundary animal and human health risks, and the rising sophistication of domestic consumers. There is a need to build on the recent strengthening and modernizing of agriculture research and extension services. Agriculture's share of the total state budget is relatively low in regional terms.

6. **Major rural infrastructure problems remain.** Only about 4.0 million ha of the 6.6 million ha of land under rice cultivation has operational irrigation facilities, and these often fail to operate at full efficiency. Most of the population lives along the coast and within the country's delta areas, which are continuously subject to floods, inundation, dry season drought, and salinity intrusion, highlighting the infrastructure deficiencies. This constitutes both a major challenge and a major development opportunity—with improved water resource infrastructure, agriculture production can be both intensified and diversified, leading to enhanced rural incomes and reduced poverty. In addition, only 28,000 kilometers (km) of approximately 104,000 km of rural roads are paved, and many of these roads are impassable at times during the rainy season, placing major constraints on (i) the marketing of agriculture produce, and (ii) access to modern inputs and other rural social and economic opportunities. The funding gap for rural roads and irrigation is estimated to be over $2 billion for the Socio-Economic Development Plan for years 2011-2015 (SEDP). A major challenge implicit in the upgrading of both water resource and rural transport infrastructure is efficient management of the expanding asset base. There is growing awareness of the seriousness of this issue on the part of both the government and development partners.

7. **Major sources of opportunity**. Viet Nam has demonstrated commitment to economic reform over a long period, and many government agencies have shown capacity to implement major sector investment programs. There is strong demand for many commodities and higher value-added products that the ANRE sector can produce, and Viet Nam's transition to middle-income status will increase domestic demand for higher-value and more diversified products. There is clear and explicit recognition by policy-makers (e.g., in the SEDP) that environment and natural resources issues have been given insufficient attention, and that agriculture will most likely provide a route out of poverty for the rural poor. In addition, increased agriculture production and value added provides rural women with opportunities to improve household incomes and access to services, education and health facilities. Lagging ANRE growth will increase the country's import bills. Agriculture is the second-largest contributor to greenhouse gasses in Viet Nam (after energy). There are opportunities to develop carbon finance, "green" products, environmentally friendly production processes and climate change mitigation initiatives. SEDP indicates intensified support for rural areas and strong commitments to enterprise efficiency that should improve rural productivity and stimulate private sector investment.

2. Government's Sector Strategy

8. **SEDP envisages annual GDP growth of around 7.5% from 2011 to 2015**, with increases of about 70% in per capita incomes and exports. Agriculture, forestry and fishery will contribute about 19% to GDP, and ANRE sector employment is anticipated to be 41% of the

national total. The overall vision of the Ministry of Agriculture and Rural Development's (MARD) 5-year plan for agriculture development (2011–2015) promotes a modernized, sustainable agriculture sector with a market orientation, supporting continuing structural transformation and international integration of the economy. Two of the plan's six main goals are poverty reduction in the poorest districts, and significant rural income increases. The National Targeted Program for New Rural Development is being led by MARD and implemented in conjunction with the 5-year plan. It aims to improve rural physical infrastructure, social services, production modes and circumstances—providing much improved rural living conditions.

9. The National Targeted Program to Respond to Climate Change, led by the Ministry of Natural Resources and Environment (MONRE), sets out policies to respond to climate change. MARD and other ministries are expected to develop relevant legal instruments to support these policies, including (i) promoting sector development that is diverse, sustainable, quickly adapts to new science and technology, and is competitive in local and international markets; (ii) developing rural areas through modern infrastructure and agriculture industry services; and (iii) ensuring food security, ecological balance and biodiversity.

3. ADB Sector Experience and Assistance Program

10. The recent country assistance program evaluation[3] assessed ADB's contribution to ANRE development as **"**substantial", stating it has encouraged broad sector reform; targeted poor regions; emphasized building institutional capacity in MARD, MONRE and their provincial agencies; encouraged reform and modernization of agriculture research and extension systems; improved productive rural infrastructure; and promoted community forestry. While ADB has not always been entirely responsive to the full range of country-defined ANRE needs, targeted operational responsiveness has been successful. The impact of ADB's investment in the sector has been determined in significant part by the scale of the outputs, including: improved irrigation and drainage on more than 900,000 ha; flood protection on 1.0 million ha; upgrading of 2,100 km of rural roads; improved management of 500,000 ha of forest; and support to policy and institutional reform, which has played a major role in removing constraints to sector modernization. Lessons include: (i) strategically selected, properly designed projects can have positive impacts on the economy, export earnings, employment, household incomes, nutrition, and poverty reduction; (ii) despite institutional issues that may constrain eventual performance, the government has shown capacity to take on challenging projects, although institutional and implementation efficiencies remain; (iii) ownership of project interventions by the government and the executing agencies concerned is critical to success; (iv) ANRE operations are complex, and require hands-on, day-to-day management; (v) policy, regulatory, and institutional shortcomings—particularly at provincial level—need to be fully addressed in investment design; and (vi) participation, governance, and monitoring need to be further strengthened.

11. ADB's future program will respond to the government's need for assistance to modernize and build capacity in ANRE. The program will support the government's priorities of economic growth and poverty reduction within the context of sustainable environmental management. Most new investments will continue established successes, such as water resource and rural accessibility infrastructure improvements. Linkages among development partners and national projects—both within regions of Viet Nam and with regional and Greater Mekong Subregion (GMS) initiatives—will be strengthened.[4] ADB will continue to mainstream gender in the ANRE sector, promoting women's employment in civil works and participation in rural development management. The evolving program will be able to accommodate increasingly important initiatives, such as food safety and climate resilience. Future operations will be aligned in two interrelated directions: (i) enhanced rural productivity; and (ii) natural resources management and

[3] ADB. 2009. *Viet Nam: Country Assistance Program Evaluation*. Manila.

[4] Established links with Agency Francaise de Development will be continued and potential cooperation with the International Fund for Agricultural Development explored.

climate change resilience. It is assumed that the government's SEDP priorities will remain constant to 2015. A key risk is the dilution of policy reform agendas if MARD and MONRE are unable to follow through with ongoing and planned reform initiatives.

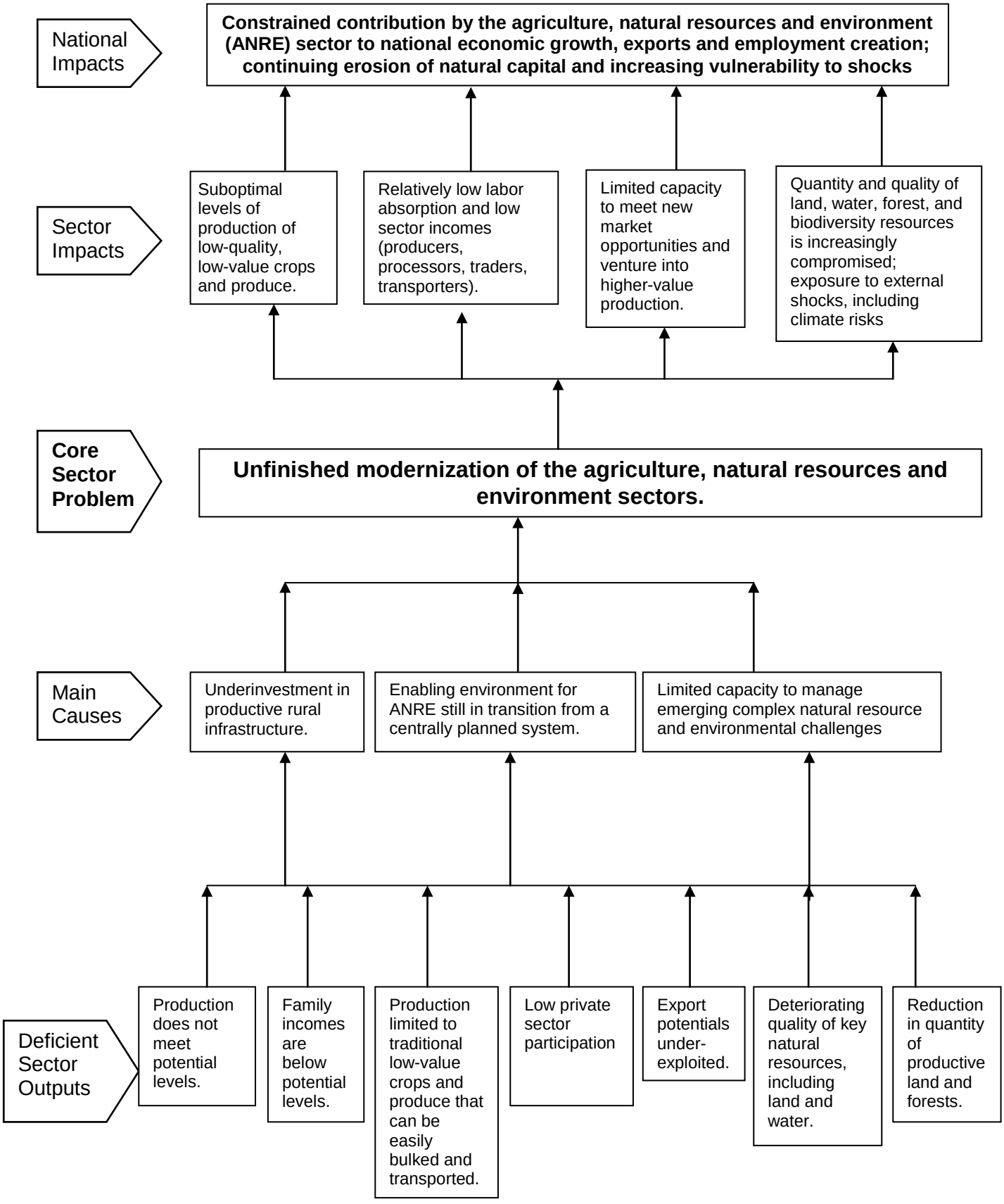
12. **Rural productivity enhancement** will be pursued through (i) improved productive infrastructure for water resources and rural accessibility; and (ii) diversification of farming systems using better technologies that lead to higher profits and nutritional yields, and improved export potential. Rural women will benefit through increased participation in project development, implementation and returns on agricultural efforts. Climate resilient measures will be increasingly important for sustainable rural infrastructure. Past and ongoing water resource improvement projects provide a foundation for future investments, with proven outputs and outcomes, and have helped government personnel gain knowledge of ADB's procedures, and develop the necessary implementation capacity. Program-related momentum will be maintained through projects that focus on irrigation and drainage improvements and flood protection, both at the country level and in coordination with neighboring GMS countries.

13. **Rural accessibility initiatives** have successfully focused on the improvement of rural roads that connect the provincial and commune networks identified in the provincial development plans. The impacts of these investments have a direct impact on poverty reduction and socioeconomic development. They are given high priority by both central and provincial-level governments; increase access to markets for produce, inputs and information; and enable increased private sector participation in rural areas. ADB will continue to support rural accessibility and will target areas with high levels of poverty, which will also often help ethnic minorities. For long-term sustainability the ANRE work will increasingly be coordinated and rationalized into the overall transport program as supported by ADB and other development partners. Rural accessibility initiatives are planned for the central highlands, as well as an expansion of ongoing projects in the central region and the northern mountains.

14. **There is a need to improve the knowledge base** upon which decisions regarding technology choices and practices are made. ADB will continue to support the academic and training institutions to development of gender sensitive knowledge and practice bases, and support the transfer of these to farmers and agricultural businesses, especially women. ADB will focus on three areas: food quality, appropriate technologies, and climate change. Concerns about food security, quality and nutritional standards must be addressed to enable higher levels of agriculture production, secondary food processing, and exports. Ensuring that food products are safe for national consumption and attractive for export will be increasingly critical, and points to the need to balance efforts to increase yields with the need for improved nutrition and sustainable consumption. ADB is planning a regional project aimed at food safety and agriculture trade enhancement within the GMS. Support will be provided for the development of biogas, bioenergy, and other low-carbon technologies that offer benefits to men and women and the environment.

15. **ADB will continue to support natural resources management and climate change resilience** efforts by MARD and MONRE. This will involve both conservation and sustainable use of natural resources (especially water and land resources) within the context of climate change impacts. ADB has established a leadership role in water resource management, and will continue ongoing policy work (e.g., support to MONRE to pass a revised Water Resources Law). Land-based natural resources management will be pursued through ongoing forestry sector activities and GMS biodiversity activities; the forestry initiative will increase forest cover and improve forest management. Initiatives to capture carbon, such as biochar, will be pursued, and sustainable natural resource management will be supported through continued participation in biodiversity conservation corridor initiatives in the GMS. ADB will also assist the government to access new sources of funds to support climate change mitigation and adaptation.

Problem Tree for Agriculture, Natural Resources and Environment Sector



Sector Results Framework (Agriculture and Natural Resources Sector, 2011–2015)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	**Indicators with Targets and Baselines**	**Outputs with ADB Contribution**	**Indicators with Incremental Targets**	**Planned and Ongoing ADB Interventions**	**Main Outputs Expected from ADB Interventions**
• Sustained agricultural productivity growth; and natural resources sustainably managed with climate change resilience enhanced.	• Forested ground cover increases from 40% in 2011 to 42.5% of total land area by 2015. • Agricultural related growth increases by 2.6% annually from the baseline of 20% in 2010.	• Increased area of managed and protected forest; and increased area with irrigation, drainage and flood control, along with improved all-weather rural access and enhanced skills.	• Forested ground cover increased by 1 million ha by 2015. • Increased irrigation by 410,000 ha by 2015. • Increased drainage by 200,000 ha by 2015. • 17,700 kilometer of rural roads paved by 2015.	**Planned key activity areas:** • irrigation systems management and drainage improvement (62% of funds) • Rural Infrastructure (18% of funds) • Agriculture sector development and policies (11% of funds) • Livelihood programs and employment generation, (6% of funds) • Sustainable land management (3% of funds) **Pipeline projects with estimated amounts:** • GMS Flood and Drought Risk Management and Mitigation (2012-$45M) • Low Carbon Agriculture Support (2012-$84M) • Productive Rural Infrastructure Development in Central Highlands (2013-$90M) • Water Resources Development in the Mid- and Northeast Red River Delta (2013-$80M) • GMS Climate Friendly Value Chain Development (2013-$35M) • Integrated Rural Development Sector in the Central Provinces (additional financing) (2014-$75M) **On-going Projects with approved amounts:** • Phuoc Hoa Water Resources ($150.0M) • Agriculture Science and Technology ($30.0M) • Forests for Livelihood Improvement in the Central Highlands ($53.0M) • Central Region Water Resources ($74.3M) • Integrated Rural Development Sector Project in the Central Provinces ($90.0M) • Quality and Safety Enhancement of Agriculture Products and Biogas Development ($104.0M) • Strengthening Water Management & Irrigation Systems Rehabilitation ($100.0M) • Bio-diversity Conservation Corridors Initiative ($34.1M) • Sustainable Rural Infrastructure Development in Northern Mountain Provinces ($108.0M) • Development of Irrigation Canal System of the Northern Chu and Southern Ma Rivers ($100.0M)	**Planned key activity areas:** • About 50,000 ha of improved irrigation and drainage along with increased proportion of women in local water user groups. • About 300 km of rural roads improved. **Pipeline projects:** • About 60,000 ha of improved irrigation and drainage along with increased proportion of women in local water user groups. • About 40,000 household biogas units established. • About 400 km of rural roads improved. **On-going Projects:** • About 80,000 ha of improved irrigation and drainage along with increased proportion of women in local water user groups. • About 500 km of rural roads improved. • Water Resources University enrolment increases by 7% per annum along with 10% increase in relevant (water resources engineering) post graduate qualifications (with specific targets for women). • About 260,000 ha of improved forest land.

ADB = Asian Development Bank, ha = hectare, M = million

Sources: Socio-Economic Development Plan 2011-2015, Ministry of Planning and Investment; Ministry of Agriculture and Rural Development's 5-year Plan (2011-2015).