## Project Information Document (PID)
### Appraisal Stage

**Report No.: AB1669**

<table>
<thead>
<tr>
<th><strong>Project Name</strong></th>
<th>Livestock Waste Management in East Asia Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Region</strong></td>
<td>EAST ASIA AND PACIFIC</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Animal production (90%); Sewerage (10%)</td>
</tr>
<tr>
<td><strong>Project ID</strong></td>
<td>P079610</td>
</tr>
<tr>
<td><strong>GEF Focal Area</strong></td>
<td>International waters</td>
</tr>
<tr>
<td><strong>Borrower(s)</strong></td>
<td>CHINA, THAILAND, VIETNAM, FAO</td>
</tr>
<tr>
<td><strong>Implementing Agency</strong></td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td></td>
<td>C-542, Viale delle Terme di Caracalla</td>
</tr>
<tr>
<td></td>
<td>Italy</td>
</tr>
<tr>
<td></td>
<td>00100</td>
</tr>
<tr>
<td></td>
<td>Tel: 39-06-570-54-751 Fax: 39-06-570-55-749</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Henning.Steinfeld@fao.org">Henning.Steinfeld@fao.org</a></td>
</tr>
<tr>
<td></td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td></td>
<td>Sanlihe Road</td>
</tr>
<tr>
<td></td>
<td>Xicheng District</td>
</tr>
<tr>
<td></td>
<td>China</td>
</tr>
<tr>
<td></td>
<td>100820</td>
</tr>
<tr>
<td></td>
<td>Tel: 86-10-6855-3102 Fax: 86-10-6855-1125</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bingwang@mof.gov.cn">bingwang@mof.gov.cn</a></td>
</tr>
<tr>
<td></td>
<td>Department of Finance</td>
</tr>
<tr>
<td></td>
<td>Level 11, 26 Cangbian Road</td>
</tr>
<tr>
<td></td>
<td>Guangdong</td>
</tr>
<tr>
<td></td>
<td>China</td>
</tr>
<tr>
<td></td>
<td>510030</td>
</tr>
<tr>
<td></td>
<td>Tel: 86-20-8317-0063 Fax: 86-20-8333-0007</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:hehuanzp@gdwbo.gov.cn">hehuanzp@gdwbo.gov.cn</a></td>
</tr>
<tr>
<td></td>
<td>The People’s Republic of China</td>
</tr>
<tr>
<td></td>
<td>China</td>
</tr>
<tr>
<td></td>
<td>Socialist Republic of Vietnam</td>
</tr>
<tr>
<td></td>
<td>Vietnam</td>
</tr>
<tr>
<td></td>
<td>Ministry of Finance (MOF)</td>
</tr>
<tr>
<td></td>
<td>Sanlihe, Xicheng District</td>
</tr>
<tr>
<td></td>
<td>China</td>
</tr>
<tr>
<td></td>
<td>100820</td>
</tr>
<tr>
<td></td>
<td>Tel: 86-10-6855-3166 Fax: 86-10-6855-1125</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:fy.liu@mof.gov.cn">fy.liu@mof.gov.cn</a></td>
</tr>
<tr>
<td></td>
<td>Ministry of Natural Resource and Environment</td>
</tr>
<tr>
<td></td>
<td>67, Nguyen Du Street</td>
</tr>
</tbody>
</table>
1. Country and Sector Background

The proposed Project addresses one of the most significant and rapidly growing sources of land-based pollution of the South China Sea – environmentally unsustainable intensive and geographically-concentrated livestock production in China, Thailand and Vietnam.

The South China Sea\(^1\) is a locally, regionally and globally significant body of water surrounded by countries that are experiencing rapid population and economic growth and facing major and similar environmental challenges. This bio-geographic region is one of the world’s most biologically diverse shallow-water marine areas. However, this biological richness is seriously threatened by two major environmental problems - over-fishing and land-based anthropogenic pollution. Without wide-scale preventive action, livestock production would become the single most important source of organic and chemical pollution of the main catchments draining into this international water.

A recent World Bank report\(^2\) reveals that land-based run-off and other inland discharges are currently estimated to contribute 44 percent of pollution to the South China Sea and the chemical oxygen demand (COD) from untreated piggery waste alone in the coastal regions of Central-south, South-west and East China accounted for 28 percent of current urban-plus-industrial COD loads in 1996 which is projected to rise to as much as 90 percent by 2010. The following table presents a summary of a study conducted in the framework of the Project preparation.

The East Asia region is the world’s biggest livestock production area dominant in pig and poultry with China, Thailand, and Vietnam alone accounting for 52 percent of all pigs and 28 percent of all chickens in the world in 2001. The shares of East Asia in world livestock production would continue to grow fast over the next decades fuelled by a growing population, rising incomes and urbanization. This, coupled with economic, technological, and political

---

1. For purposes of the Project, the term ‘South China Sea’ is taken to include also the Gulf of Thailand.
2. Source: China: Air, Land, and Water - Environmental Priorities for a New Millennium, World Bank 2001
evolution, is causing significant change in the scope and the structure of the livestock industry. In particular, very intensive forms of livestock production are appearing rapidly and driving much of the sector’s development. Large-scale industrial production accounts for about 80 percent of the total production increase in livestock products in Asia since 1990. In the future, most livestock production, especially of pigs and poultry are projected to come from large-scale industrial production with vast majority of these intensive production farms located around major urban centers in the participating countries that lie in or close to the coastal regions of the South China Sea.

Concentrated livestock production, also a major threat to human health, as evidenced by the recent SARS and Bird Flu outbreaks, causes significant local, regional and global environmental damage, particularly to freshwater and marine aquatic systems. Current waste management practice in these areas is predominately direct or indirect discharge through streams and rivers into the South China Sea. The main sector issues are:

1. **Lack of technical solutions to address and deal with the problem of nutrient imbalance** - In all three countries, limited government support for basic livestock waste management investments persists. Moreover, these investments address only the immediate impacts or symptoms of the problem as perceived at the local level and do not even begin to seriously address the problem of nutrient imbalance. Without new initiatives and technical solutions, countervailing tendencies to concentrated livestock production would be too weak to overcome the incentives driving it. Consequently, the imbalance between the level of nutrient inputs and absorptive capacity of the land would worsen progressively with rapidly growing industrial livestock production.

2. **Lack of policy instruments for industrial livestock production specific management and mechanism for law enforcement and coordination among government agencies** - All three participating countries have national level environmental policies with supporting standards. In each, the components dealing with livestock waste management are very recent and general with little effective enforcement. The agencies charged with enforcement lack the resources committed to properly monitor and enforce the regulations.

2.  **Objectives**

3.1  **Project Development Objective**

The Project’s development objective is to reduce the major negative environmental and health impacts of rapidly increasing concentrated livestock production on the open waters of and thus on the people of south-east Asia. Its global environment objective is to reduce livestock induced, land-based pollution and environmental degradation of the South China Sea and Gulf of Thailand.

3.2  **Key Indicators of Project Performance**

Achievement of the Project development objective would be monitored by the following key performance indicators (see also Annex 3, Results Framework and Monitoring):

1. Reduced livestock production related emissions of pollutants in surface water systems of project area including nitrates, phosphates, BOD, COD and E. coli.

2. The number and size of confined livestock producers within the demonstration areas preparing and adopting pollution control practices demonstrated through the project;
(3) Improved spatial distribution planning for livestock production facilities (to better match waste production and land absorption capacity);

(4) Local and national adoption and enforcement of suitable policies and regulations for addressing livestock waste management-related pollution;

(5) Reduced human health risk as a result of minimized transmission potential of pathogens, antibiotics and virus from fish to human being;

(6) Increased public awareness and regional exchange of information on pollution threats and health problems from livestock waste as shown in government and World Bank policy documents.

1.

The Project is consistent with the goal of the World Bank’s Country Assistance Strategies (CAS) in China, Thailand and Vietnam reflecting the need for rapid economic growth that is environmentally sustainable.

In China, the CAS (25141-CN, December 19, 2002) aims at assisting the government in poverty reduction and supporting investments in environmentally sustainable agricultural and livestock development. As reflected in the CAS, protecting the environment is an overarching objective for support by the World Bank to sustain rural income growth while maintaining the natural resource base. This proposed Project would contribute towards these specific CAS goals by promoting investment on selected livestock farms in an environmentally sustainable manner to protect environment around the farms and towards the South China Sea.

In Thailand, the CAS (25077-TH, January 22, 2003) aims at, as one of the World Bank’s implementation support, supporting the government by complementing its development partnership at the country level with work on regional and global public goods. The World Bank is already actively involved in a number of regional initiatives and would strengthen its support for these programs in the coming years. The World Bank would also help share Thailand's development experience through cooperation with other countries in the region. This proposed Project would contribute towards these CAS goals by promoting an integrated regional approach in Project preparation, implementation and sharing of experience.

In Vietnam, the CAS (27659-VN, February 19, 2004) sets out three broad objectives (a) high growth through a transition to a market economy; (b) an equitable, socially inclusive and sustainable pattern of growth; and (c) adoption of a modern public administration, legal and governance system. The proposed Project is in line with these broad objectives by introducing a legal framework into the livestock production sector to promote an environmentally sustainable growth.

The Project’s regional approach will maximize its contribution to the two regional GEF Action Programs by ensuring that (a) the region’s three most important countries, in terms of livestock production and waste pollution, are all involved; (b) their common interest in protecting ecosystems of the South China Sea is emphasized; (c) important cross-country synergies are promoted; and (d) experience from the project demonstration could be replicated throughout the region.

The proposed Project would demonstrate the technically, agronomically, geographically, economically, and institutionally workable solutions to protect the environment under
tremendously different political and social situations and conditions. All three Project participating countries have recognized the negative effects of industrial livestock production on the environment and endorsed the proposed Project as a means to tackle these issues and as a national priority for GEF support.

3. Rationale for Bank Involvement
The Project is fully consistent with GEF International Waters Focal Area Strategic Priorities, in particular with IW-1 catalyzing financial resource mobilization for implementation of reforms and stressing reduction measures through agreed Trans-boundary Diagnostic Analysis and Strategic Action Plans and IW-3 innovative demonstration of removing the barriers to sustainable industrial livestock management.

The Project is fully consistent with GEF OP10 Contaminant-based Operational Program. Specifically, the Project would (a) demonstrate how to address land-based pollution (paragraph 10.2); (b) position the GEF to play a catalytic role in demonstrating ways to overcome barriers to best practice in limiting contamination of international waters (paragraph 10.5); (c) address a threat that is imminent, of high priority, and on which neighboring countries want to take collaborative action (paragraph 10.5); (d) stress pollution prevention over remediation (paragraph 10.7); (e) leverage private investment (paragraph 10.9); (f) involve close cooperation with other GEF agencies (paragraph 10.9); and (g) be replicated regionally and globally (paragraph 10.11).

The Project will also contribute to objective of the GEF Focal Areas of climate change, OP2 Costal, Marine, and Freshwater Ecosystems, and OP14 Draft Elements of an Operational Program for Reducing and Eliminating Releases of Persistent Organic Pollutants into the Environment.

The Project is also consistent with the proposed objectives and potential eligibility criteria of a possible GEF/World Bank Strategic Partnership for a Land-based Pollution Fund for the Large Marine Ecosystems of East Asia that is under development to further scale-up this program. The objective of this Partnership would be to demonstrate and encourage replication of innovative, more cost-effective ways to reduce land-based pollution of the large marine ecosystems of East Asia and to stimulate private investment in such measures. The Partnership is expected to focus on both wastewater treatment and one or two regional and/or national projects to reduce agricultural pollution.

4. Description
2. (see Annex 4 for a detailed description and Annex 5 for a detailed cost breakdown)

On-the-ground demonstrations of innovative, cost-effective livestock waste management techniques by private livestock producers and implementation of a replication action plan for them will be the project’s principal outputs, as agreed at pipeline entry. Reflecting this emphasis, nearly 60 percent of total project cost is budgeted for livestock waste management technology demonstration activities.

The project design is tailored to fit the specific livestock rearing conditions in the three participating countries, particularly the different average size of pig farms, which are its main target. In Thailand and China, large sized industrial pig farms are dominant, while in Vietnam,
pig farms are typically small scale, involving confined household-based production that is concentrated in particular villages. This structure of Vietnamese rural society requires that the project’s demonstration activities be conducted on a communal (village) rather than individual farm basis. The targeted project demonstration farms are all located within the concentrated livestock production jurisdictions bordering South China Sea and Gulf of Thailand.

The proposed Project takes a comprehensive approach to integrate technological solutions, regulatory enforcement, capacity building, and regional synergy for achievement of the Project objectives. The Project would be integrated into the Governments’ mainstream programs and based on existing institutional mechanisms. The project will support activities under the following four project components to be implemented over a period of five years with focus on on-the-ground demonstration, policy development and regulatory enforcement.

**Component 1: Livestock Waste Management Technology Demonstration (US$13.6 million)**

This component would finance consultant services, training, goods and civil works related to the development and construction of cost-effective and replicable livestock waste management systems and facilities and the implementation of effective waste management approaches in areas with a high concentration of intensive pig farms. Its goal is to demonstrate technically, geographically, economically and institutionally workable solutions to reduce regionally-critical livestock waste pollution caused by industrial livestock production under the different political and social situations of the participating countries. The livestock waste management strategies promoted under this component will focus on reducing excess nutrients (nitrates and phosphates in particular) and human health risks. The methods to be used would include (a) reducing, through better feeding practices, the volume of nutrients emission; (b) getting the nutrients back into the crop cycle; (c) processing and packaging the nutrients for export to other areas for crop use; (d) converting the nutrients to plant-available forms; (e) destroying the nutrients; and (f) taking measures to minimize potential transmission of pathogens, antibiotics and their resistance strains from livestock to human being. Specific activities of the component would include: selection of demonstration farms and villages, technical design, and implementation.

The demonstration activities would be supported by training and extension to provide (a) farmers with the essential skills and technical support needed to improve their on-farm manure management practices and (b) capacity building. Activities would be specified in the detailed master capacity building development plan to be prepared by each participating country. This component would comprise two subcomponents i.e. Technology Demonstration, and Training and Extension.

**Component 2: Policy and Regulatory Development (US$4.8 million)**

This component would finance consultant services, training and goods to support setting up a policy and regulatory framework for environmentally sustainable development of livestock production in each country that will induce further policy reforms and encourage farmers to adopt improved manure management practices. This will be achieved through: (a) the development of a replication strategy; (b) the review and revision of existing regulations; (c) the commitment to master planning of livestock production (at national and provincial levels) to direct the geographic focus of future intensive livestock production; (d) the development and introduction of codes of practice or best waste management practices; and (e) the development and introduction of livestock waste recycling and discharge standards. Specific policy packages will be tested in sub-national jurisdictions and testing experience will feed back into the policy
and regulatory development subcomponent. Code of Practices or Best Management Practices will be tested in synergy with Livestock Waste Management Technology Demonstration component, which will promote cost-effective and replicable technical options. This component will also support awareness raising activities, focusing on policy measures and environment and public health issues associated with inadequate manure management. This will focus the attention of national and local governments on livestock waste policy and regulatory enforcement and facilitate further assistance with this challenge from the World Bank and other donors. This component would comprise three subcomponents i.e. Policy and Regulatory Development, Policy Testing, and Awareness Raising.

**Component 3: Project Management and Monitoring (US$4.1 million)**

This component would finance consultant services, training, office equipment and incremental operating costs to support efficient project management by supporting the establishment of a national Project Management Office (PMO) in each participating country as the secretariat of and reporting directly to the respective National Steering Committee. The PMO, comprising a Project manager supported by competent staff, based on existing administrative structure and physically located within the main implementing agency of each participating country, would be responsible for day to day Project administration. Replication potential of alternative livestock waste management technologies as related to farm scale, affordability, operational capacity, material availability, and compatibility to the waste handling methods of the local farm communities would be assessed to achieve widespread replication of the tested manure management practices throughout the three participating countries.

The component would also support effective Project monitoring and evaluation of the social, economic, environmental, human health risks and other changes brought about by the Project, and the dissemination of Project outcomes within respective participating country. Monitoring on human health risks associated with the project will focus on measures taken to minimize potential transmission of pathogens, antibiotics and their resistance strains from livestock to human being. Specific activities would be detailed in Project monitoring and evaluation plans to be finalized at appraisal. This component would comprise two subcomponents i.e. Project Management, Project Monitoring and Evaluation.

5. Financing
Source: ($m.)
BORROWER/RECIPIENT 16.51
GLOBAL ENVIRONMENT FACILITY 7
FOREIGN MULTILATERAL INSTITUTIONS (UNIDENTIFIED) .5
Total 24.01

6. Implementation
N/A.

**Regional Coordination Group (RCG).** The Project implementation would be coordinated and facilitated by a RCG which would consist of representatives of each participating country (also members of their respective National Steering Committee) and FAO. RCG’s principal role is to (a) ensure a continuing exchange of information on livestock waste management issues; (b) coordinate Project implementation among the countries, (c) ensure the inclusion of the issue of
manure management on the political and budgetary agenda within respective country, (d) facilitate the gradual adoption of common policies thereon between the partners, and (e) coordinate implementation of the Regional Support Service component. RCG would meet normally twice a year.

National Steering Committee (NSC). A NSC has been formed by each participating country with members from key government ministries (agriculture, environment, public health etc.), academies within each country involved in livestock waste management at national level with overall responsibility for Project preparation and implementation in respective country. Its principal functions would be to (a) review and approve Project annual work plans and budgets in their respective countries, (b) provide guidance on national policies and priorities related to livestock waste management to be followed and help resolve related issues, and (c) integrate activities of various agencies involved in the Project and ensure an inter-agency coordinated approach to Project implementation. To provide immediate guidance to Guangdong PMO, a Project Leading Group has been established at Guangdong provincial level.

National Project Management Office. A national Project Management Office would be established as the secretariat of and reporting directly to respective National Steering Committee. The PMO would be responsible for day to day Project administration. Its staff composition, specific responsibilities, financial budgets and physical location would be decided by respective NSC and acceptable to the World Bank. To facilitate Project preparation and implementation in Guangdong province, a PMO at provincial Department of Agriculture would be set up.

Local Institutional Arrangement. Project management structure below the national level varies from one country to another and is described in detail in Annex 6. Local governments would make practical institutional arrangements involving various government agencies for preparation and implementation of respective Project activities. With guidance and support from national PMOs (provincial PMO in Guangdong) and training, local level agencies would take the primary responsibility for Project implementation within their jurisdictions.

Stakeholder Involvement. All key stakeholders have been involved in Project preparation and will be continuously involved in project implementation. Stakeholder participation plans are under preparation by the participating countries and will specify the participation and consultation mechanisms tailored to facilitate the stakeholder involvement especially the private sector. The private sector will be responsible for implementation on the demonstration farms and villages.

Implementation Arrangements for Regional Support Services Component. FAO/LEAD would be responsible for implementation of the Regional Support Services component. A Regional Facilitation Office would be set up prior to Project effectiveness and located in FAO’s Regional Office in Bangkok of Thailand. This Office would consist of a full-time FAO staff serving as the Regional Project Coordinator supported by short-term consultants as needed. Its main functions would be to (a) prepare an annual work program to be reviewed and approved by the RCG; (b) manage the Project activities as agreed with the World Bank; and (c) serve as the secretariat of the RCG.

A detailed description of the Project institutional and implementation arrangement is presented in Annex 6 and included in PIPs.
7. Sustainability

4.1 Sustainability

The project is designed to be sustainable in several respects. To the extent possible, the project will rely on technologies that are cost-effective, replicable and environmentally sustainable. For technologies such as improved feed efficiency or fertilization techniques that lower production cost, sustainability would be inherent. The project would ensure that manure treatment systems promoted under the project would have sufficiently low operation and maintenance costs to be financially sustainable by livestock producers.

To a large extent, the project’s long-term sustainability would be ensured through strengthening of regulatory frameworks for the livestock sector. While there are risks of insufficient enforcement when these affect profitable economic activities, the project would attempt to mitigate such risks in several ways: (i) Sustainable solutions to ensure the private sector’s willingness to invest in livestock waste management technologies would be sought through increased stakeholder participation in the decision-making process, including favorable pricing policies for livestock waste management systems’ outputs such as bio-gas, electricity and organic fertilizer; (ii) Raising of public awareness would encourage local communities to seek more consistent enforcement of environmentally-friendly solutions; and (iii) Strengthening of public institutions and systematic monitoring of livestock development policies, including their environmental impact, would lead to improvements in each country’s capacity for sustainable livestock development, as well as benefits for the global environment. The project’s monitoring and evaluation plans will ensure that its environmental and social benefits are adequately measured, valued and disseminated which would further promote its sustainability. The governments of the participating countries have provided assurances about the priority nature of this project and their commitment to ensure adequate government support, including financial resources for sustainability beyond the successful completion of this project.

4.2 Replicability

The project may yield only limited direct impact on water quality of the South China Sea, since the selected demonstration areas represent negligible fractions of the total pollution load. Consequently it has been designed to maximize replicability beyond its immediate impact area. A noticeable pollution reduction in the South China Sea catchment areas therefore can be achieved through the replication of the demonstrated livestock waste management practices throughout the participating countries and in other countries bordering the South China Sea. Specific project activities for replication of improved livestock waste management approaches would be (i) preparation and implementation of a replication strategy; (ii) specialized training, cross-visits and study tours for interested farmers, local officials, decision makers etc.; (iii) engaging farmers groups, local communities, NGOs, government agencies and other stakeholders; (iv) support for local pressure through public-awareness building; and (v) dissemination of demonstration results through targeted workshops and development of internet portal for in-country as well as regional replication.

The aim of the project’s replication strategy, is eventual integration of the project’s successful demonstrations into each country’s overall livestock waste management strategy and their scaling up. During this process, opportunities for integrating livestock waste management activities in future World Bank and other donor investments would be sought. Through the regional dissemination activities, which would target primarily the three participating countries
but eventually also other riparian countries draining into the South China Sea, other countries in
the region could benefit from the knowledge and experience gained under the project. The
project would also intend to provide valuable experiences beyond the East Asia region. Close
cooperation with other international livestock management projects and assistance agencies
would ensure that a successful project approach can be replicated in other regions that face
similar environmental problems from industrial livestock production. The project would ensure
that all aspects of its design and implementation are well documented and easily publicly
available to support dissemination and replication efforts.

8. Lessons Learned from Past Operations in the Country/Sector
Key lessons learned from the World Bank’s rural environmental and livestock operations,
LEAD’s\(^3\) earlier AWI pilot studies in China, Thailand and Vietnam, and the government
programs and reflected in the proposed Project design include the following:

(1) Lack of livestock waste management-specific policy instruments, weak law enforcement
and coordination between concerned government agencies and existence of sometimes
counter-productive policies are the key weaknesses in policy framework.

(2) Lack of effective analytical tools, appropriate technical solutions and coordinated inter-
agency approaches are the major lessons in addressing the worsening livestock waste
management issue.

(3) Strong government commitment in compliance, enforcement, incentives and early
involvement of key stakeholders including local administrations, communities, farmers’
organizations in Project preparation are critical to ensure ownership, sustainability and
successful Project implementation.

(4) Mitigation measures to reduce nutrient load must yield tangible benefits for key
stakeholders, specifically local communities and farmers to ensure adoption and
replicability.

(5) Effective monitoring and evaluation plans should be developed and applied to assess
Project impact.

(6) Capacity building of Project implementing agencies and regulatory institutions through
training, technical assistance and specialized support is the key to ensure efficient and
effective Project implementation.

9. Safeguard Policies (including public consultation)

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP/BP/GP 4.01)</td>
<td>[x]</td>
<td></td>
</tr>
<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
<td></td>
<td>[x]</td>
</tr>
<tr>
<td>Pest Management (OP 4.09)</td>
<td></td>
<td>[x]</td>
</tr>
<tr>
<td>Cultural Property (OPN 11.03, being revised as OP 4.11)</td>
<td></td>
<td>[x]</td>
</tr>
<tr>
<td>Involuntary Resettlement (OP/BP 4.12)</td>
<td>[x]</td>
<td></td>
</tr>
</tbody>
</table>

\(^3\) Livestock, Environment and Development Initiative is a multi-donor funded program with secretariat provided by the FAO.
Triggered safeguard policies by the Project include (a) Environmental Assessment; (b) Involuntary Resettlement; and (c) Indigenous Peoples. The Project was classified as a Category B Project based on the Task Team’s environmental screening and stakeholders discussions.

**OP4.01 Environmental Assessment.** The EAs were carried out for the Project. No major critical negative environmental impacts of the Project are foreseen. Since the Project is aiming to reduce nutrient loading also other pollutants that are present in livestock manure, and to improve the environmental condition of the livestock producing communities and downstream water users, it should not have any significant and/or long-lasting negative environmental impacts. Potential impact on human health risks has been assessed and specific measures to minimize the potential transmission of pathogens, antibiotics and their resistance strains will be taken by all participating farms. The proposed EMP for each country has fully considered potential Project impacts on natural and social environment and has proposed a detailed plan to ensure that positive environmental impacts are further enhanced and the negative impacts are kept to minimum.

**OP4.12 Involuntary Resettlement.** Respective Resettlement Policy Framework (RPF) has been developed and approved by respective participating country (expected by January 31, 2005) that complies with the requirements of the World Bank’s OP 4.12 Involuntary Resettlement. Based on the task team’s visits to the selected Project sites, no land acquisition is foreseen at these sites. Thus, preparation of a RP is not required for the first phase of Project implementation. However, specific RP is required from respective countries in subsequent phases of Project implementation when situations change necessitating the process. Respective RPFs will apply.

**OD4.20 Indigenous Peoples.** A Strategy for Ethnic Minority Development (SEMD) plan has been developed and approved by respective participating country (expected by January 31, 2005) that complies with the requirements of the World Bank’s OD 4.20 Indigenous Peoples. The social assessment carried out in three countries confirmed that the selected demonstration sites in three countries do not involve any indigenous peoples. Thus, preparation of an Ethnic Minority Development Plan (EMDP) is not required for the first phase of Project implementation. However, specific EMDP is required from respective countries in subsequent phases of Project implementation when situations change necessitating the process. Respective SEMDs will apply.

10. List of Factual Technical Documents

**A. Project Implementation Plan**

1. Thailand Project Implementation Plan, December 15, 2004
2. Vietnam Project Implementation Plan, December 27, 2004
3. China Project Implementation Plan, December 22, 2004

*By supporting the proposed Project, the World Bank does not intend to prejudice the final determination of the parties’ claims on the disputed areas.*
4. FAO Project Implementation Plan, 2005

B. World Bank Report
1. Aide Memoire September 2003
2. Aide Memoire March 2004
3. Aide Memoire September/October 2004
4. Aide Memoire 2005
5. Project Concept For Pipeline Entry and PDF-B Request, 2003
6. Quality Enhancement Review Meeting Minutes, September, 2004
7. Procurement Capacity Assessment for China, December 2004
8. Procurement Capacity Assessment for Thailand, December 2004
10. Financial Management Assessment for China, December 2004
11. Financial Management Assessment for Thailand, December 2004

C. Other
1. Project Preparation Report, LEAD, November 19, 2004
2. Project Pre-feasibility Study Report, Vietnam National Steering Committee, October 2, 2004
5. Project Preparation Paper No. 3: Manure Management Technologies, LEAD, November 19, 2004
6. Project Preparation Paper No. 4: Model of Nutrient Migration to the South China Sea, LEAD, November 19, 2004
8. Project Preparation Paper No. 6: Environmental Assessment, LEAD, November 19, 2004
9. Project Preparation Paper No. 7: Social Assessment, LEAD, November 19, 2004
10. Project Preparation Paper No. 8: Detailed Description of Component 1, LEAD, November 19, 2004

11. Contact point
Contact: Weiguo Zhou
Title: Operations Officer
Tel: (202) 458-4052
Fax: (202) 477-2733
Email: Wzhou@worldbank.org

12. For more information contact:
The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-5454
Fax: (202) 522-1500
Web: http://www.worldbank.org/infoshop