

**PERU**

**PROPOSED CONDITIONAL CREDIT LINE (CCLIP) FOR THE  
NATIONAL AGRICULTURAL HEALTH SERVICE LONG-TERM  
INVESTMENT PROGRAM (PE-X1002)**

**AND**

**INDIVIDUAL LOAN FOR THE AGRICULTURAL HEALTH AND  
AGRIFOOD SAFETY DEVELOPMENT PROGRAM  
(PE-L1023)**

**LOAN PROPOSAL**

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Basic socioeconomic data	<a href="http://www.iadb.org/countries/home.cfm?id_country=PE&amp;Language=english">http://www.iadb.org/countries/home.cfm?id_country=PE&amp;Language=english</a>
Status of loans in execution and loans approved	<a href="http://portal.iadb.org/approvals/pdfs/PEen.pdf">http://portal.iadb.org/approvals/pdfs/PEen.pdf</a>
Tentative lending program	<a href="http://opsgsl/ABSPRJ/tentativelending.ASP?S=PE&amp;L=EN">http://opsgsl/ABSPRJ/tentativelending.ASP?S=PE&amp;L=EN</a>
Information available in the INE/RND files	<a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1343087">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1343087</a>
Annex II – Procurement plan	<a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1714703">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1714703</a>

## ABBREVIATIONS

BB	Bovine brucellosis
BT	Bovine tuberculosis
CCLIP	Conditional credit line for investment projects
FMD	Foot-and-mouth disease
FTA-USA	U.S.-Peru Trade Promotion Agreement
F/T/D	Fly level/trap/day
GPV	Gross production value
INEI	Instituto Nacional de Estadística e Informática [National Institute of Statistics and Information]
IRR	Internal rate of return
ISO	International Organization for Standardization
LIBOR	London Interbank Offered Rate
MEF	Ministry of Economic Affairs and Finance
MINAG	Ministry of Agriculture
OIE	World Organisation for Animal Health
PANAFTOSA	Pan American Health Organization's Foot-and-mouth Disease Center
PCR	Project completion report
PMU	Project Management Unit
SENASA	Servicio Nacional de Sanidad Agraria [National Agricultural Health Service]
SIGIA	Integrated Agricultural Input Management System
SUNAT	Superintendencia Nacional de Administración Tributaria [National Superintendency of Tax Administration]

## PROJECT SUMMARY

### PERU

## PROPOSED CONDITIONAL CREDIT LINE (CCLIP) FOR THE NATIONAL AGRICULTURAL HEALTH SERVICE LONG-TERM INVESTMENT PROGRAM (PE-X1002)

### AND

## INDIVIDUAL LOAN FOR THE AGRICULTURAL HEALTH AND AGRIFOOD SAFETY DEVELOPMENT PROGRAM (PE-L1023)

Financial Terms and Conditions				
<b>Borrower:</b> Republic of Peru			<b>Amortization period:</b>	20 years
<b>Executing agency:</b> Servicio Nacional de Sanidad Agraria [National Agricultural Health Service] (SENASA)			<b>Grace period:</b>	5 years
			<b>Disbursement period:</b>	5 years
Source	Amount (US\$)			
	CCLIP	First operation	Interest rate:	LIBOR
IDB (Ordinary Capital)	175,000,000	25,000,000	<b>Inspection and supervision fee:</b>	*
Local	130,000,000	76,047,478	<b>Credit fee:</b>	*
Total	305,000,000	101,047,478	<b>Currency:</b>	U.S. dollars from the Single Currency Facility
			<b>Option to convert to Peruvian nuevos soles:</b>	Local Currency Facility (paragraph 3.18)
Project at a glance				
<p><b>Project objective:</b></p> <p>The objective of the CCLIP is to make the agricultural sector more competitive and enhance the health of the population. The purpose of the first individual loan operation is to raise the levels of agricultural health, agrifood safety, and agricultural input supply systems and strengthen their protection.</p> <p>The project has four components: (i) strengthening of phyto- and zoosanitary quarantine and surveillance systems; (ii) agricultural input delivery and food safety assurance systems; (iii) control and eradication of animal diseases; and (iv) eradication of the fruit fly.</p> <p><b>Special contractual conditions:</b></p> <p>As a condition precedent to the first disbursement of Bank financing, the borrower will provide evidence to the Bank that the program's Operating Manual has come into force (paragraph 3.8).</p> <p><b>Exceptions to Bank policies:</b></p> <p>A revolving fund is requested for 10% of the amount of the Bank loan (paragraph 3.19).</p> <p><b>Project consistent with country strategy:</b> Yes [ X ]      No [   ]</p> <p><b>Project qualifies as:</b>                      SEQ [   ]      PTI [   ]      Sector [   ]      Geographic [   ]      Headcount [   ]</p> <p><b>Procurement:</b> See paragraphs 3.11 to 3.16. Includes one procurement without direct competition (paragraph 3.12).</p> <p><b>Date of ESR verification:</b> 14 March 2008</p>				

\* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

## **I. FRAME OF REFERENCE**

### **A. Introduction**

- 1.1 The Conditional Credit Line for Investment Projects (CCLIP), and the proposed first loan operation, aim to give continuity to the strategic work plan embarked upon by the National Agricultural Health Service (SENASA) when it was set up in 1992, which has been implemented through two Bank-supported operations since 1997. This plan has the following specific objectives: to improve access to external markets for agricultural products; to protect Peru's national heritage of exotic plant and animal species; to eradicate socially and economically significant diseases and pests; to enhance the quality of food products; and to ensure proper use of agricultural inputs to make national production and agroexports more competitive. The proposed CCLIP for US\$175 million will last for 15 years, with an initial loan operation for US\$25 million covering the first five. The CCLIP would be implemented with funds drawn from the Bank's Ordinary Capital through the Single Currency Facility in U.S. dollars.

### **B. The Peruvian agricultural sector: historical development and outlook**

- 1.2 Over the last 15 years, Peruvian agriculture has regained importance as a strategic sector of the national economy. With an 8.3% share of gross domestic product (GDP) in 2006, the agriculture sector expanded at an average real rate of 5.1% per year between 1995 and 2007, outpacing the average overall 4.7% GDP growth rate for that period. Agricultural exports, mainly fruit and vegetables, became a source of foreign exchange, rising from US\$621 million in 1985 to US\$1.79 billion in 2007. Figures published by the National Institute of Statistics and Information (INEI) show that agricultural activity absorbed about one third of the country's labor force in 2006, and has been making a significant contribution to the regional development of the country, particularly in agroexporting regions such as La Libertad, Lambayeque and Ica, thus helping to deconcentrate wealth throughout the country.
- 1.3 The comparative advantages that Peru offers for agricultural activity (i.e. great diversity of ecosystems that allow a wide variety of agricultural products to be produced at different times of the year) have been bolstered by a stable macroeconomic and sector policy environment, making it possible to promote agriculture subsectors that target external markets. The opening up of the economy to international markets, intensified by a lowering of the average effective tariff to just 2.05% in 2007, together with active promotion of international trade agreements by the government, and public expenditure for the sector mainly targeting the provision of agricultural services that have public-good characteristics, have been promoting private investment in the sector to exploit the country's comparative advantages. One of these services is agricultural health.<sup>1</sup>

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<sup>1</sup> In addition to agricultural health, services with public-good characteristics targeting the sector include agricultural innovation and research, irrigation infrastructure, land titling and regularization of land tenure, and information systems.

- 1.4 The outlook for the Peruvian agriculture sector is highly favorable, following the recently approved Trade Promotion Agreement with the United States (FTA-USA). With roughly one third of Peru's agricultural exports being sent to that country, the FTA-USA will provide immediate access for 90% of the universe of agricultural products that have phytosanitary requirements in place, thereby allowing for an expected increase of 48% in fruit and vegetable exports between 2008 and 2010. In general, the agreement is expected to generate total GDP growth of 4.6% and a 13% expansion in exports. Most of these effects will occur in the first few years after the agreement enters into force.

**C. The role of agricultural health in the sector**

- 1.5 Agricultural health is a public good that makes a significant contribution to farmers' competitiveness, by reducing production costs, increasing productivity, and improving final product quality. It is thus an essential factor in obtaining real access for agroexports to international markets. For the country's agricultural health actions to be effective, there must be a legal framework that facilitates their implementation. In Peru, the legal framework governing the provision of agricultural health services has been fine-tuned since the creation of the National Agricultural Health System in 1992, by incorporating aspects that are relevant for conserving the country's biological heritage, and also for the health of persons, fauna, and flora. On 28 June 2008, the government promulgated the General Agricultural Health Act, which, in addition to maintaining key aspects of the previous legal framework in terms of surveillance, quarantine, and eradication, also expanded the role of the State in two areas: (i) control, registration, inspection, and post-registration of chemical pesticides used in agriculture; and (ii) the inclusion of integrated pest management principles and practices in the government's phytosanitary campaigns. On the same date, the government also promulgated the Food Safety Act, regulating the quality (safety) of food destined for human consumption. The fact that laws comply with the agricultural health agreements in the FTA-USA will make it easier for agricultural products to enter the U.S. market without prior agricultural health permits.
- 1.6 The stability of the legal and institutional framework governing health issues has enabled Peru to make significant progress in terms of permanent health services (quarantine, surveillance, laboratories), and to eradicate exotic diseases and pests such as foot-and-mouth disease, bovine brucellosis, and the fruit fly. This has been crucial in improving the sector's competitiveness and raising annual agricultural growth rates over the last decade. Two programs, both funded by the Bank, contributed to Peru's agricultural health gains: the Agricultural Health Development Program and the Fruit Fly Control and Eradication Project in Coastal Areas of Peru. These programs are described below.

**1. Agricultural Health Development Program (loan 1025/OC-PE)**

- 1.7 The objective of loan 1025/OC-PE was to improve levels of plant and animal health by implementing specific pest and disease control and eradication projects, and



strengthen permanent agricultural health services either through the national health authority (SENASA) or by increasing private-sector participation in its governance. The operation supported activities in the following areas: (i) institutional strengthening of SENASA, including its permanent surveillance, quarantine, and laboratory services; (ii) biological control of agricultural pests; and (iii) control and eradication of pests and diseases, including the fruit fly (*Ceratitidis capitata*), foot-and-mouth disease, bovine brucellosis and tuberculosis, caprine brucellosis, and sarna (mange) in South American camelids. The program cost a total of US\$76 million and received US\$45.6 million in funding from the Bank. The operation was approved in 1997 and completed execution in 2006. The project completion report (PCR) rated the executing agency's performance as highly satisfactory.

- 1.8 Execution of loan 1025/OC-PE helped to implement the original legal framework governing the country's national agricultural health system and to make SENASA recognized internationally for its technical soundness and reliability. The program consolidated the institution nationally, with central, regional, and local entities being brought under a single organizational structure for technical-operational and administrative-financial issues. It also supported the introduction of fees for SENASA services, which increased its internally generated revenue by 53% from 1999 to 2007 to now account for 25% of its budget, thus providing greater financial sustainability. Computer-based tools were developed to plan, execute, monitor, and evaluate SENASA's permanent actions and technical projects.
- 1.9 Loan 1025/OC-PE also strengthened some of SENASA's permanent services such as surveillance, quarantine, and laboratories. The health surveillance system was strengthened with equipment and the establishment of information and training systems; and surveillance networks were set up covering 11,300 hectares, with a 30-day response time for phytosanitary reporting and dissemination, and seven days in the case of animal health. Strengthening of the quarantine system made it possible to control and inspect agricultural merchandise legally entering Peru through the country's sea ports. Plant and animal laboratories or diagnostic centers were renovated and equipped, their staff trained, and procedural manuals introduced, making it possible to handle and analyze 100% of all samples entering SENASA. A regulation was issued allowing third parties to be accredited to provide certain agricultural health services; and the private sector is currently providing services, such as vaccination campaigns and quarantine fumigation.

- 1.10 In terms of eradicating pests and diseases, the operation achieved the following:<sup>2</sup> (i) 22,300 hectares of agricultural land in Tacna, Moquegua, and Arequipa in the fruit fly “post-eradication” phase, i.e. several months pest-free; (ii) 97% of the country declared free of foot-and-mouth disease (FMD-free) without vaccination, and 3% free with vaccination; (iii) 26 provinces declared free of bovine tuberculosis (BT-free), and 37 provinces declared free of bovine brucellosis (BB-free); (iv) a reduction in the prevalence of mange among camelids in the Sierra region from 38% to 1.7%; (v) declaration of caprine-brucellosis-free zones in Lima and Piura, and a below-1% prevalence rate in the rest of the country; and (vi) reduction of the risk of toxic residues in food products by expanding the area of biological pest control from 12,000 to 253,000 hectares.

## **2. Fruit fly (*Ceratitis capitata*) Control and Eradication Project in Coastal Areas of Peru (loan 1647/OC-PE)**

- 1.11 This operation was approved in July 2005 with US\$15 million in Bank funding and a total cost of US\$37.5 million. Its purpose was to secure areas free of *Ceratitis capitata* in selected valleys in the coastal region, and to reduce economic losses caused by the fruit fly. Thus far 93% of the loan proceeds have been disbursed, and 19,000 hectares have been declared free of this pest (45% of the target). The date of the final disbursement is 21 December 2009.

## **3. Lessons learned**

- 1.12 The following main lessons have been learned from the Bank's agricultural health actions in Peru: (i) investment in agricultural health is economically profitable, yielding average returns of 30%-80%; (ii) pilot testing is needed to generate technologies for possible biological behavior scenarios, particularly for new pest eradication initiatives; (iii) the promotion of collective action schemes among farmers is key to ensuring that everyone participates in agricultural health actions, and to preventing a few from obstructing their benefits; (iv) executing agency autonomy is crucial, particularly as regards procurement, given the biological nature of the agricultural health services; (v) adequate planning, budgeting, and indicator monitoring systems are essential for project execution; (vi) the policy of cost sharing with beneficiaries is important for sustainability; and (vii) a legal framework is needed with clearly defined jurisdictions to regulate and implement corrective measures that are harmonized with international standards. The present program takes these lessons into account and incorporates the relevant actions to ensure the profitability and sustainability of the investments.

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<sup>2</sup> An ex post evaluation of loan 1025/OC-PE performed in 2008 by an independent firm found that: (i) the prevalence and incidence of mange in camelids was significantly lower in the group treated under the operation than in the untreated group (1.8% vs. 16.4% and 3.6% vs. 12.2%, respectively); (ii) 14% of farmers in a sample of 20 coastal valleys who adopted the biological control and integrated pest management practices promoted by the operation saw a 40% increase in net income per hectare (US\$200) over the baseline; and (iii) producers who benefitted from fruit fly eradication under the program recorded a 41% spike in total annual per capita income and a 53% increase in agricultural income per capita, over the baseline.

#### **4. Challenges and opportunities**

- 1.13 Worldwide demand for food is showing a significant growth trend in higher value-added, better quality products that guarantee food safety as a basic attribute. This trend in demand offers major potential for Peru. Agroexports make intensive use of agricultural health and food safety services. A study<sup>3</sup> of the determinants of Peruvian fruit exports concluded that investments in eradicating the fruit fly have had a major impact on export volumes. The demand for these services is likely to increase as the range of exportable products continues to diversify, raising susceptibilities to other pests and diseases compared to the leading products: asparagus represented 40% of nontraditional exports in 2000, but currently accounts for 25%, whereas six emerging products have a share of more than 4% each. The rapid expansion of cultivated areas, together with the higher density of crop farming and livestock breeding, also raises agricultural health risks.
- 1.14 If Peru wishes to maintain the sector's current annual growth rates in the long term, it needs to make continuous investments over time to have an efficient, effective, and flexible agricultural health system that is readily accessible to producers. However, according to the United Nations Food and Agriculture Organization (FAO), public health expenditure in Peru accounts for just 4.1% of rural public spending, which is below levels in other countries selling products on comparable markets, such as Chile (5.3%), Costa Rica (6.4%) or Brazil (7.0%). Accordingly, there are challenges to be met in the short term in the following areas:
- 1.15 Permanent agricultural health services: The expansion of foreign trade as a result of Peru's trade agreements increases the chances of pests and exotic diseases entering the country that could harm agriculture, biodiversity, and public health. The country therefore needs to continue to modernize its surveillance and quarantine services, raising its biological safety level, with risk mitigation systems based on more reliable analyses using more sophisticated equipment that covers the various entry points and types of shipment. This needs to be integrated with information obtained from its trading partners, to remain alert to potential outbreaks and be able to respond more quickly, with adequately trained personnel in place.
- 1.16 Food safety and the handling of agricultural inputs: Having recently passed a legal framework governing food safety and the handling of agricultural inputs, Peru now faces the challenge of implementing it. In the case of food safety, the country needs traceability systems that are certifiable by the national authority, to make it possible to track the history of a product throughout its useful life through the different links in the chain. In terms of the handling of agricultural inputs, the country needs to implement suitable mechanisms for the control, registration, inspection, and post-registration of pesticides and veterinary inputs that promote good agricultural

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<sup>3</sup> Barrantes, R. and J.J. Miranda "Impacto del Proyecto de Control, Supresión y Erradicación de la Mosca de la Fruta en las Exportaciones Peruanas: Un Análisis Empírico" [Impact of the Project to Control, Suppress, and Eradicate the Fruit Fly on Peruvian Exports: An Empirical Analysis], in Perú: El problema agrario en debate, SEPIA XI, 2006.

practices, permanent surveillance to detect improper use of these products, and the recovery of packaging.

- 1.17 Presence of pests and diseases in the country: Despite progress in eradicating pests and diseases such as foot-and-mouth disease, bovine brucellosis and tuberculosis, caprine brucellosis, and mange in camelids, these and other diseases remain present in Peru, causing recurrent economic losses in agricultural output. There are: (i) areas with eradication campaigns that have been started but have not yet been declared disease-free; and (ii) diseases for which no eradication actions have yet begun and for which, in some cases, the risks of outbreaks have not been characterized. This restricts the access of agricultural production to new foreign markets and obstructs the negotiation of trade agreements. Information-intensive surveillance systems do not yet have nationwide coverage, and not all public and private sentinel reporters participate in the detection of pests and diseases.

**D. The country's strategy in the sector**

- 1.18 The promotion of food safety through agricultural health and food safety programs has been established as a State policy and included in the National Accord; and in 2006 this was legally constituted through the approval of the State Policy Guidelines for Development and Rural Life in Peru.
- 1.19 The country has a strategic export plan for 2003-2013, which includes the Agriculture-Agribusiness Sector Export Work Plan whose diagnostic and policies are consistent with this program. This vision and the strategic objectives are set out in detail in the SENASA Institutional Strategic Plan 2008-2022.

**E. The Bank's participation and strategy in the sector**

- 1.20 The Bank's country strategy (document GN-2472-2) is designed around three basic objectives: (i) to increase the economy's productivity and competitiveness; (ii) to make social policy more efficient; and (iii) to create a modern, decentralized, and efficient State. This operation fits into the first strategy area.
- 1.21 Since 1995, the Bank's strategy in Peru's agriculture sector has aimed to improve sector competitiveness and increase the incomes of rural producers through programs to improve the quality of services that have public-good characteristics in three areas: agricultural health; titling and the regularization of land tenure; and market information systems. In addition to loans 1025/OC-PE and 1647/OC-PE for agricultural health, the Bank also provided funding for the regularization of property rights through two land titling and registration projects (loans 906/OC-PE and 1340/OC-PE). These have given legal certainty to property ownership in the coastal region and to 50% of properties in the Sierra region, with a third stage currently being prepared (PE-L1026) in the same area. In addition, market information services and rural business training in Peru are being implemented through the Program of Support Services to Gain Access to Rural Markets (loan 1586/OC-PE).

- 1.22 Since October 2007, the Bank has been engaged in a close dialogue with authorities from the Ministry of Agriculture to develop a compensatory support program aimed at improving the competitiveness of medium- and small-scale farmers, by giving them incentives to adopt technologies that reward cooperative-partnering arrangements in traditional rural farming zones.

#### **F. The CCLIP strategy and the first loan operation**

- 1.23 The CCLIP strategy seeks to further consolidate the agricultural health service in Peru as an efficient, effective, and flexible service with broad coverage that aims to make the agricultural sector more competitive, conserve the country's biological heritage, and preserve public health. The first operation under this credit line seeks to address short-term opportunities and challenges in the areas of permanent services, food safety, and the handling of agricultural inputs, and to prevent pests and diseases from entering in the country.
- 1.24 The amount for the CCLIP was calculated using a sustainability model based on projected investment needs to achieve the credit line's targets (see Table 1). The calculation takes into account Treasury funding and revenue obtained from user fees, mainly from foreign trade certifications.

**Table 1: Results Achieved and CCLIP Targets (PE-X1002)**

<b>Areas of intervention</b>	<b>Results achieved to date (loans 1025/OC-PE and 1647/OC-PE)</b>	<b>First operation (PE-L1023)</b>	<b>Future operations</b>
Strengthening of phyto- and zoosanitary quarantine and surveillance systems	Legal framework and institutions established (paragraph 1.8). Maritime entry points controlled with personnel-intensive technology, use of laboratories, and first-generation equipment (paragraph 1.9). Surveillance networks created covering 11,300 hectares (paragraph 1.10).	Extend coverage to all of the country's main air and postal entry points. Modernize pest and disease detection infrastructure. Reduce response times for reporting diseases and pests. Update the information system.	Establish a prevention and contingency system for pest and disease-free areas to prevent entry and be able to react rapidly to eliminate pest or disease outbreaks. Equipment and new technologies will be updated to improve the quality management system.
Eradication of diseases in animals	97% of the country FMD-free without vaccination and 3% FMD-free with vaccination; 26 provinces declared BT-free areas, and 37 provinces declared BB-free; the prevalence of mange in camelids has dropped from 38% to 1.7%; Lima and Piura declared free of caprine brucellosis, and prevalence in the rest of the country is below 1% (paragraph 1.10).	100% of the country declared FMD-free by the World Organisation for Animal Health. Five regions declared free of the three main swine diseases. Prevalence reduced to 1% in the rest of the country.	Entire country declared free of the three swine diseases.

Areas of intervention	Results achieved to date (loans 1025/OC-PE and 1647/OC-PE)	First operation (PE-L1023)	Future operations
Eradication of the fruit fly	Disease-free areas achieved in Tacna, Moquegua, Arequipa, and Ica (paragraphs 1.10 and 1.11).	Disease-free areas achieved in Cañete, and fruit fly eradicated in Lima, Ancash, and La Libertad.	Disease-free areas in La Libertad, Lambayeque, Piura, and Tumbes.
Strengthening of input supply systems and agrifood safety assurance	No investments have been financed for these activities.	Establishment and strengthening of the post-registration of pesticides and veterinary inputs, the national organic production certification system, and the primary agrifood safety system.	Extension of the food safety system. Contaminants present in 25 food products sold on markets serving the country's 10 leading cities reduced by 95%. The traceability system will be implemented.
Diagnostic capacity of laboratories	Laboratory infrastructure completed to analyze 100% of samples received (paragraph 1.9).	Not necessary (paragraph 1.9).	Partial renewal of laboratory infrastructure. 90% coverage of the service within established time frames.
ISO certification of quality management and assurance systems in SENASA services	Internal SENASA systems have been certified for animal and plant health diagnostic services, issuance of animal and plant quarantine standards, and control posts in El Callao.	40% of official services prioritized and completed.	100% of official services prioritized, certified, and laboratory quality management system consistent with ISO 17025.
Capacity building to implement agricultural health measures	SENASA capacity sufficient to meet trade partners' requirements	Not necessary.	Limited program support envisaged given the internal funding situation

## G. Justification and relevance of a CCLIP

- 1.25 Justification: The success of loans 1025/OC-PE and 1647/OC-PE in terms of execution and results justifies a CCLIP for agricultural health in Peru. The Institutional Strategic Plan for 2008-2022, together with the sanitary and phytosanitary commitments in the FTA-USA, provide a suitable framework for formulating the first proposed operation (PE-L1023) and future investment projects under the proposed CCLIP. In this respect, the CCLIP provides continuity to the activities that Peru has been undertaking, with Bank support, as part of a defined strategy in agricultural health; and it also puts in place a simplified procedure for approving future investment projects associated with the credit line. The CCLIP will fund activities for: (i) strengthening of surveillance and quarantine systems to complete coverage and increase quality and reliability to meet the higher demand for services from producers, mitigate the risk arising from the larger volume of foreign trade, and ensure the maintenance of disease-free areas; (ii) eradication of the main pests and diseases, to meet targets for the eradication of foot-and-mouth disease, bovine brucellosis and tuberculosis, and caprine brucellosis, among others, and to take new action on other significant diseases in the pig breeding, poultry, and camelid sectors, among others; (iii) control and eradication of the fruit fly, which requires a special effort given its importance; (iv) establishment of input supply and

- food safety assurance systems; (v) strengthening of laboratory diagnostic capacity, satisfying the requirements of systems for quarantine, surveillance, food safety and pest control and eradication programs, keeping pace with technological developments in laboratory methods and equipment; (vi) ISO certification of quality management and assurance systems in SENASA services; and (vii) capacity building to implement sanitary and phytosanitary measures. The CCLIP will help consolidate SENASA institutionally, by providing an incentive to maintain good performance as the executing agency of future programs.
- 1.26 The amount of Bank funding proposed for the CCLIP is US\$175 million, which is consistent with: (i) the execution capacity for investment projects (ii) loan amounts in previous projects: loan 1205/OC-PE, US\$45.6 million; and loan 1647/OC-PE, US\$15 million; and (iii) the amount sought by the Government of Peru for the first loan operation, i.e. US\$25 million.
- 1.27 Eligibility of the executing agency for a CCLIP: SENASA fulfills the executing agency eligibility requirements for a CCLIP (document GN-2246-4), in particular: (i) it has satisfactorily implemented a similar project with the Bank over the last five years (loan 1025/OC-PE) and is currently executing loan 1647/OC-PE satisfactorily; (ii) it is a financially and institutionally sound executing agency, as indicated in the institutional viability section (paragraphs 4.1 and 4.2); (iii) the PCR for loan 1025/OC-PE rated the project as effective in achieving its development objectives; (iv) the reports filed by the external auditors for loan 1025/OC-PE were submitted on time and contain unreserved opinions, reporting the fulfillment of contractual clauses; (v) laboratories and other assets set up and equipped using resources from those operations are functioning and being maintained adequately; (vi) annual ratings from 1998 to 2007 in project performance monitoring reports indicate a sound record of satisfactory performance; and (vii) most of the components to be funded in the first loan operation represent a continuation of loans 1025/OC-PE and 1647/OC-PE, and form part of the Bank's strategy with the country.

## **II. THE CCLIP AND THE FIRST LOAN OPERATION**

### **A. Objectives and description of the CCLIP**

- 2.1 The CCLIP will finance the National Agricultural Health Service Long-term Investment Program. Its objective is to help make the agricultural sector more competitive and enhance the health of the population. The first loan operation is the Agricultural Health and Agrifood Safety Development Program.
- 2.2 The 15-year time horizon for the CCLIP will enable SENASA to offer its services on an efficient, effective, and flexible basis, with broad coverage through activities to be funded with the following objectives: (i) to prevent, control, and eradicate pests and diseases in economically important plants and animals, for which eradication, control, and certification of pest- or disease-free areas by trading partners is a long-term process; (ii) to promote health conditions that foster the

sustained development of agroexports; (iii) to regulate the production, marketing, use, and final disposal of agricultural inputs; (iv) to promote the application of integrated pest management; and (v) to guarantee the safety of food products destined for human consumption. The individual specific loan operations will include subsets of these activities.

**B. Objectives and description of the first loan operation**

2.3 The purpose of the first program is to raise the levels of agricultural health, food safety, and agricultural input delivery systems and strengthen their protection. The proposed program has four components:

**1. Strengthening of phyto- and zoosanitary quarantine and surveillance systems (US\$7.9 million)**

2.4 This includes strengthening the following systems:

- a. Quarantine system. (i) Implementation, outfitting, and training of inspectors at control posts in the El Callao seaport and airport, to reduce the entry of pests through the principal entry point for imported goods in the country; and (ii) preparation of complementary standards, training for officials and beneficiaries, and implementation and outfitting of external control posts in northern Peru, in order to achieve effective zoosanitary quarantine protection in border areas and other areas that are subject to control or eradication or are disease-free.
- b. Surveillance system. (i) Installation of an information system to collect, process, and disseminate official data, together with building the technical capacity of officials, to enhance timely, efficient generation and dissemination of information on the occurrence of pests in the country and abroad within the phytosanitary surveillance system; and (ii) expansion of information on the distribution of livestock diseases and the risk of occurrence of diseases that require mandatory notification, as well as implementation of a traceability system for cattle, to increase the timely, efficient generation and dissemination of information on the occurrence of diseases in Peru and abroad within the zoosanitary surveillance system.

**2. Strengthening of the agricultural input delivery and food safety assurance systems (US\$4.7 million)**

2.5 This involves strengthening the following systems:

- a. Agrifood safety system for production and primary processing. The objective is to improve the safety of the aforementioned foods in the national and international marketplace, through surveillance and control capacity-building, consumer information, and implementation of good practices and standardized hygiene procedures and hazard analysis and critical control points (HACCP).
- b. National system for organic production. The objective is to improve control and supervision of the system, by establishing a reliable information system,



providing training activities to ensure recognition of the national supervision system in importing countries, and conducting campaigns to increase producer participation.

- c. Post-registration system for agricultural pesticides. This aims to improve control and supervision of agricultural pesticides sold in the domestic market, by providing training in exercising oversight, establishing a surveillance mechanism for final disposal of old, obsolete, and expired pesticides, as well as conducting campaigns for involving public and private actors in the system.
- d. Post-registration supervision system for livestock inputs. This would improve control and supervision of livestock inputs sold in the domestic market, by taking steps in increase control actions, establishing surveillance systems on the handling of veterinary inputs, and conducting campaigns to involve public and private actors in the system.

### **3. Control and eradication of animal diseases (US\$10.9 million)**

- 2.6 This involves: (i) eradication of foot-and-mouth disease, to reduce the risk of introducing or reintroducing it in the Tumbes, Cajamarca, Piura, Lambayeque, La Libertad, Ancash, and Lima regions, through building capacity for foot-and-mouth disease prevention, monitoring and quarantine of the disease, and strengthening the agricultural health culture; and (ii) control and eradication of swine diseases (classic swine fever, Aujeszky's disease, porcine reproductive and respiratory syndrome) throughout the country, in order to reduce the prevalence of those diseases and achieve disease-free status in some areas. This includes execution, supervision, and monitoring of vaccination and environmental management dissemination campaigns, implementation of mobile control posts, and preparation of prevention and control regulations.

### **4. Eradication of the fruit fly (US\$75 million)**

- 2.7 This involves the eradication of the fruit fly (*Ceratitis capitata* and the *Anastrepha* complex) in the Lima, Ancash, and La Libertad regions, in order to achieve and maintain fruit-fly-free areas in the province of Cañete (Lima region); achieve post-eradication levels in the provinces of Huaral, Huaura, Barranca, Cajatambo and Yauyos (Lima region), the Department of Ancash, the provinces of Virú and Patate (Libertad region); and thus reduce related economic losses. Funding will be provided for building and outfitting control posts and treatment areas, as well as for procuring traps, georeferencing equipment, biological insecticides, vehicles, inputs for producing sterile flies, hiring of temporary labor, training, and dissemination. Financing will also be provided for consulting services, equipment, and articles needed to develop and improve methods for controlling the various fruit fly species, as well as programs for communication and dissemination of environmental and social impacts.

### C. Cost and financing

- 2.8 The total amount of the CCLIP over its 15-year lifetime is US\$305 million. Of this, US\$175 million will be funded by the Bank using resources drawn from the Single Currency Facility of its Ordinary Capital, while US\$130 million will be provided as counterpart funding. The total cost of this first loan operation, is US\$101,047,478, with US\$25 million in Bank funding.

**Table 2: Program Costs and Financing (US\$ )**

Categories	Bank	Local*	Total	%
<b>1. Management and supervision</b>	<b>128,400</b>	<b>2,022,180</b>	<b>2,150,580</b>	<b>2.1</b>
<b>2. Direct costs</b>	<b>24,523,600</b>	<b>74,025,298</b>	<b>98,548,898</b>	<b>97.5</b>
2.1 Strengthening of phyto- and zoosanitary quarantine and surveillance systems	2,362,119	5,460,288	7,822,407	7.7
2.2 Strengthening of agricultural input delivery and food safety assurance systems	1,214,929	3,514,406	4,729,335	4.7
2.3 Control and eradication of animal diseases	2,805,333	8,119,454	10,924,787	10.8
2.4 Eradication of the fruit fly	18,141,219	56,931,150	75,072,370	74.3
<b>3. Midterm and final evaluation, audits, and other special studies</b>	<b>348,000</b>	<b>0</b>	<b>348,000</b>	<b>0.3</b>
<b>Total</b>	<b>25,000,000</b>	<b>76,047,478</b>	<b>101,047,478</b>	<b>100</b>
<b>Percentage, by source</b>	24.7	75.3	100.0	

\* Does not include recurrent costs of US\$8,903,514.

\* Does not include the beneficiaries' contribution of US\$11,146,177.

## III. IMPLEMENTATION

### A. Borrower and executing agency

- 3.1 The borrower will be the Republic of Peru, and the executing agency will be the National Agricultural Health Service (SENASA). The latter is a government agency attached to the Ministry of Agriculture (MINAG), with legal status under public law.

### B. Program execution and management

- 3.2 Following the recommendations made in loan operation 1647/OC-PE, the program will be implemented by SENASA through a Project Management Unit (PMU) that is already set up within its budgetary structure. The PMU draws on the knowledge and experience gained by the executing units for loans 1025/OC-PE and 1647/OC-PE. It will have general administrative, financial, and fiduciary responsibility for the program, and will involve participation by the executive directorates and by the following three SENASA line agencies: the Plant Health

Department, the Animal Health Department, and the Agricultural Inputs and Agrifood Safety Department.

- 3.3 SENASA will put together national commissions as temporary consultative bodies, when participation from various stakeholders is required (e.g. farmers, exporters, importers, merchants, academics, irrigation commissions, nongovernmental organizations, regional and local governments) on specific issues of institutional competency during program execution. National commission members will serve on an *ad honorem* basis. Local and regional governments will also support the program in its various activities, including communication campaigns, support for compliance with fruit fly and disease eradication standards, and complementary resources in terms of labor, dissemination, and transport.
- 3.4 A board of directors will serve as the superior program management body. Its main functions include: (i) approve the program monitoring and evaluation reports; (ii) approve the change of any officials in the PMU, with the Bank's prior no objection; (iii) in the event of a change, select someone to serve as chief of that unit, for the Chief of SENASA to make the appointment, based on a shortlist provided by a recruiting firm; (iv) in the event of a change, select the coordinators for the PMU, based on a shortlist provided by a recruiting firm; and (v) receive the annual reports from the financial statement and environmental audits, following up on implementation of report recommendations. The board will be comprised of the Chief of SENASA, who will serve as its chair; the head of the Ministry of Agriculture's Investment Office; a representative of the Ministry of Economic Affairs and Finance's Multiyear Programming Bureau; two representatives of program beneficiaries, designated by the Association of Agroexporting Unions and the Peruvian Association of Pig Farmers; the Director of Institutional Development and Planning; and the Chief of the PMU, who will serve as Technical Secretary.

### **1. Project Management Unit**

- 3.5 The PMU, which is under the national bureau (*Jefatura Nacional*), will be responsible for general program management and acting as SENASA's counterpart with the Bank. It will have at least three functional areas: Programming and Monitoring; Procurement and Contracting; and Finance and Administration. Its functions will include: (i) opening separate bank accounts and maintaining accounting records that make it possible to identify the sources and uses of program resources, by component; (ii) preparing and presenting to the Bank disbursement requests and appropriate supporting documentation for eligible expenditures, along with audited financial statements for the program; (iii) preparing public tender and bidding processes, obtaining prior approval from the relevant line agency, and undertaking contracting processes and making the corresponding payments; (iv) preparing, presenting to the Bank and the competent government agencies, and publishing consolidated monitoring reports and the required evaluation reports; (v) ensuring fulfillment of environmental and SENASA regulations within the program; and (vi) ensuring fulfillment of the contractual clauses contained in the

loan contract. The PMU will use SENASA's Integrated Planning and Management System for budget formulation and execution.

- 3.6 The functions described above will be the responsibility of the Chief of the PMU. In addition to the support received from staff in that unit's three functional areas, the Chief will be assisted by three coordinators, with specialists in the following areas: procurement and contracting, finance and accounting, and programming and monitoring. An environmental auditor will also be responsible for ensuring compliance with the country's environmental laws and SENASA's regulations within the program. The terms of reference, draft contracts, and staffing proposals will require the Bank's prior no objection.

## **2. SENASA line agencies and executive directorates**

- 3.7 Operational implementation on the ground and technical and environmental supervision of program activities, including periodic inspections of works during execution and the subsequent monitoring of their operation and maintenance, will be the responsibility of the executive directorates and the three SENASA line agencies, in accordance with their areas of action: (i) the Plant Health Department will be responsible for the phytosanitary quarantine and surveillance areas, in component 1, as well as component 4 activities (paragraph 2.7); (ii) the Animal Health Department will be responsible for the zoosanitary quarantine and surveillance areas of component 1, and also component 3 (paragraph 2.6); and (iii) the Agricultural Inputs and Agrifood Safety Department will be responsible for component 2 (paragraph 2.5). In addition to providing supervision, these agencies will issue the relevant technical standards and prepare monitoring reports for the activities under their responsibility, which will subsequently be sent to the PMU for consolidation.

## **C. Program operating manual**

- 3.8 Program management will be governed by an operating manual. Among other things it will contain the terms and conditions governing program execution, including: the specific functions and responsibilities of each functional area of the PMU; work processes such as activities programming and approval, the execution mechanism by component or activity, intrainstitutional coordination, disbursements, and procurement procedures; supervision and evaluation processes, including technical and environmental supervision (i.e. procurement guidelines for pesticides that ensure disposal and treatment of associated plastic residues by the suppliers) and the content of relevant reports. **Evidence that the program's operating manual has entered into force will be a condition precedent to the first disbursement of Bank funding.**

## **D. Eligibility criteria for subsequent operations under the CCLIP**

- 3.9 The activities executed by SENASA are heterogeneous in terms of investment size, execution period, and nature of the service, and because they are highly independent. As stated in document GN-2246-4, a condition precedent to the

approval of a new loan operation will be that 75% of Bank resources have been committed, or 50% of any activity disbursed.

**E. Environmental management**

- 3.10 To enable the program to comply with environmental regulations, the PMU will, in addition to the environmental specialist hired for that purpose, be supported by the Institutional Planning and Development Office—an advisory agency responsible for coordinating within SENASA—to ensure that the projects make the most of positive environmental impacts and help mitigate any environmental risks. An independent evaluation also found that SENASA had sufficient institutional capacity to develop environmental management plans (paragraph 4.14).

**F. Procurement**

- 3.11 **Goods and works.** Goods will be procured in accordance with the Bank's Policies for the procurement of works and goods financed by the IDB (document GN-2349-7). International competitive bidding will be mandatory for goods and works procurements that are partially or totally funded with foreign currency obtained from the loan, in amounts exceeding US\$350,000 and US\$3,000,000 equivalent, respectively. Goods procurements in amounts between US\$50,000 and US\$350,000 can be processed through national competitive bidding, pursuant to national legislation; and procurements involving less than US\$50,000 will be done using price comparison. Works procurements of between US\$250,000 and US\$3,000,000 can be processed through national competitive bidding, pursuant to national legislation, and those below US\$250,000 will use price comparison. Goods and works procurements will abide by the Procurement Plan previously approved by the Bank.
- 3.12 **Direct contracting.** Direct contracting is anticipated in an amount of up to US\$8.1 million to procure the biological insecticide with the active ingredient Spinosad, which is made exclusively by Dow AgroSciences in the United States and marketed in Peru by Bayer AgroSciences. This insecticide is patented, has a registered trademark, and currently can only be obtained from one manufacturer. The amount authorized in that purchase is what is needed and essential to start program execution. The procurement can be processed through a partial delivery supply contract, or in several partial procurements, as needed, seeking to obtain efficiencies from a procurement of this scale and the best possible price in the Peruvian market. Direct purchase is justified by the need to serve European and Japanese markets that do not accept fruit produced with chemical insecticides, as well as for environmental reasons. The aforementioned proposed direct contracting is consistent with the provisions of document GN-2349-7, paragraph 3.6(c).
- 3.13 **Consulting services.** For the selection and contracting of consulting services costing US\$200,000 or more, a shortlist will be drawn up following an international request for expressions of interest. International advertising will not be necessary for amounts less than US\$200,000. Consultants will be selected and contracted in accordance with the Bank's policies as set out in document GN-2350-7. Consulting

services will be contracted in accordance with the Procurement Plan previously approved by the Bank.

- 3.14 **Continuation of consulting services.** Counterpart funds will be used to extend the contracts of personnel (paragraph 3.6) who currently perform similar tasks in the executing unit for loan operation 1647/OC-PE. Maintaining the contracts of the current team of consultants will afford continuity to the work, secure the technical capacity acquired, and guarantee adequate transfer of information to the PMU and efficiency in the initial stages of execution. Continuity of personnel will also ensure quality and efficiency in program management.
- 3.15 **Procurement plan.** As part of the monitoring report in the second half of the year, and before proceeding with the procurements in question, the executing agency will submit a Procurement Plan for Bank approval that complies with IDB policies. The plan will be updated annually as necessary, or when substantial changes occur, always covering the next 18 months of program execution. Any alteration to the Procurement Plan must be submitted to the Bank for approval, and the current version should always be kept available. The operation's initial Procurement Plan has been agreed upon between the executing agency and the Bank (Annex II).
- 3.16 **Procurement reviews.** Procurements that require international advertising, and the selection of consultants in amounts above US\$200,000, will be reviewed ex ante, along with procurements of goods and nonconsulting services for US\$350,000 or more, and works costing US\$1 million or more. Other procurements and consulting services will be evaluated ex post, pursuant to the provisions of documents GN-2350-7 and GN-2349-7.

## G. Disbursement schedule

- 3.17 The program's disbursement period will be five years. The following table sets out the anticipated program disbursement schedule.

**Table 3: Disbursement Schedule by Year of Execution (US\$ million)**

Source of financing	TOTAL	Year 1	Year 2	Year 3	Year 4	Year 5
1. IDB	25.0	2.7	4.8	7.1	7.4	3.0
2. Local	76.0	12.5	13.2	19.8	20.8	9.7
Total	101.0	15.2	18.0	26.9	28.2	12.7
%	100	15	18	26	28	13

## H. Local currency

- 3.18 One of the objectives set by the borrower is better debt management, and a key element of its strategy is to adopt mechanisms enabling it to measure and control risks arising from the composition of the public debt portfolio, particularly exchange-rate risk in the case of foreign-currency-denominated debt. The borrower has set targets for reducing this risk, migrating towards a public debt composition shifted more toward domestic debt and debt denominated in nuevos soles. Another of the borrower's objectives is to reduce exposure to the risk of refinancing, by

planning and reducing the concentration of repayments over time. In line with its debt management strategy, the borrower has requested use of the Local Currency Facility. The proposed program could be implemented through resources drawn from the Single Currency Facility of the Bank's Ordinary Capital in U.S. dollars, and will be subject to the Operational Framework for Lending in Local Currency (document GN-2365-6).

**I. Revolving fund and audit**

- 3.19 For the purpose of advancing funds for Bank-financed activities, a revolving fund will be created for up to 10% of the loan amount. The 10% ceiling is needed for the flow of payments to field workers, who are paid by task and in a concentrated fashion. That amount was also determined on the basis of the satisfactory execution of loan operations 1025/OC-PE and 1647/OC-PE. The executing agency will send a semiannual report on the revolving fund to the Bank within 60 calendar days from the close of each six-month period.
- 3.20 During program execution, the borrower will submit annual financial statements for the program. The external audit will be performed by a firm of independent auditors acceptable to the Bank, pursuant to Bank requirements (documents AF-100 and AF-300), and based on the terms of reference previously agreed upon by it (document AF-400). Audited financial statements for the program will be filed 120 days following the end of the fiscal year, and program closing statements will be submitted 120 days after the last disbursement.

**J. Monitoring and evaluation**

- 3.21 SENASA will monitor and evaluate the fulfillment of periodic quantitative targets associated with the output and outcome indicators specified in the logical framework (Annex I). For that purpose, it will use the management and technical information system implemented under loan 1647/OC-PE, which makes it possible to integrate the operation's financial-accounting management with the periodic achievement of program targets. Program monitoring and evaluation tasks will be undertaken by the PMU, supported by the Institutional Development and Planning Office—a SENASA advisory body responsible for formulating public investment projects. That Office will help review and monitor program evaluation reports.
- 3.22 The program has baseline information, except in the case of the new pest and disease eradication initiatives, which require prospective studies of coverage and disease incidence, the cost of which is part of the investment project.
- 3.23 SENASA will prepare an activity progress monitoring report and send it to the Bank, by 30 July and 31 January each year during program execution. These reports will focus on fulfillment of the output indicators and progress towards the outcomes set out in the logical framework (Annex I). They will include the results of the monitoring of the environmental impact of program activities, and will analyze problems encountered and corrective measures taken. The reports in the second half of each year will also contain programming for the following calendar

year (i.e. an annual work plan), with a forecast of disbursements and an updated Procurement Plan. Adjustments to the program arising from the discussion of these reports will be agreed upon with the Bank. Pursuant to Article 4.01(c) of the General Conditions of the loan contract, the initial report will include the annual work plan for the first year of execution. Based on these reports, SENASA and the Bank will review the program and make recommendations for program performance and any necessary corrective measures. Once these have been accepted by the Bank, monitoring reports will be made available to the public on the program's page on the SENASA website.

- 3.24 As part of program evaluation, SENASA will prepare and send to the Bank a midterm evaluation report 90 days after 50% of the loan proceeds have been disbursed, and a final evaluation report 90 days after 90% of the proceeds have been disbursed. The terms of reference for both evaluation reports will be approved by the Ministry of Agriculture's Investment Office and the Public-sector Multiyear Programming Bureau of the Ministry of Economic Affairs and Finance (MEF). They will also require the Bank's no objection. These reports will include: (i) progress towards achieving the program targets set out in the logical framework; (ii) degree of fulfillment of contractual obligations and the operating manual; (iii) effectiveness of the execution scheme; (iv) effectiveness of the program's monitoring and evaluation system, and identification of possible lessons learned; and (v) evaluation of progress and monitoring of environmental aspects. The final evaluation report will also include: the identification of lessons learned; the sustainability of health services based on an historical analysis of public expenditure targeting agricultural health in Peru; outstanding challenges in terms of the quality of permanent services, pest and disease eradication, and agrifood safety; and an update of the long-term investment plan and possible activities for the second operation under the CCLIP. Once approved by the Bank, the two evaluation reports will be posted on the SENASA website. Both reports, including supporting documentation and statistical data, will remain available for an ex post evaluation should the government or the Bank decide to conduct one after the end of the program.

#### **IV. DEVELOPMENT IMPACT**

##### **A. Institutional viability**

- 4.1 A number of external evaluations have recently been done on SENASA's general institutional performance. A 2006 study by Société Générale de Surveillance S.A.<sup>4</sup> evaluated its fiduciary and administrative-financial performance, human resources, and administrative integrity, and the quality of its links with stakeholders in the executing unit for loan 1647/OC-PE. It concluded that SENASA was a stable and sound entity whose operations did not generate major risks. The Bank evaluated the

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<sup>4</sup> Société Générale de Surveillance S.A., Procurement compliance and institutional capacity on selected projects and executing agencies. Peru, prepared for the Inter-American Development Bank, 2006.



unit, using the institutional capacity assessment system (ICAS), as part of program preparation and rated the executing agency as low risk. In addition, the Office of the Comptroller General of the Republic issued satisfactory opinions on compliance with indicators and commitments established in results-based management agreements signed between SENASA and the MEF between 2001 and 2005.

- 4.2 In addition to assessments of its overall performance, SENASA's technical and project management capacities have also been evaluated. In 2005-2006, its diagnostic capacity, emergency response capacity, quarantine, surveillance, emerging issues, risk analysis and technological innovation were all evaluated using the "Performance, Vision and Strategy" methodology developed by the Inter-American Institute for Cooperation on Agriculture. It concluded that SENASA had adequate systems and human resources, and it identified opportunities for improvement that were taken into account in this program. The MEF evaluation of SENASA's budgetary formulation and execution capacity<sup>5</sup> considered the SENASA integrated management and planning systems as models to be incorporated as pilots for implementing the results-driven budget in the program for improving the quality of management and public expenditure. In addition, in its 2002-2006 Country Program Evaluation, the Bank's Office of Evaluation and Oversight (OVE) rated the SENASA monitoring and evaluation system as successful.
- 4.3 The quality of the services supplied by SENASA was validated in workshops with small-scale producers held during program preparation to present the aim and scope of the operation. SENASA has signed agreements with producer organizations on components needing beneficiary participation and cofinancing, as well as those related to the implementation of control and eradication campaigns, organic production, and food safety.

## **B. Socioeconomic viability**

### **1. Scope of the analysis**

- 4.4 For the purposes of the economic evaluation of program PE-L1023, the viability of 11 projects included in the operation was analyzed:<sup>6</sup> phytosanitary and zoosanitary quarantine; phytosanitary and zoosanitary surveillance; eradication programs for foot-and-mouth disease, swine diseases, and the fruit fly; food safety; veterinary post-registration; pesticide post-registration; and organic production. The net benefits of these projects were estimated for the with- and without-program scenarios, using an evaluation horizon of 10 years. The internal rate of return (IRR)

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<sup>5</sup> Ministry of Economic Affairs and Finance. Public Budget Bureau: "Presupuesto por resultados: El caso del Servicio Nacional de Sanidad Agraria – SENASA" [Results-driven Budget: The Case of the National Agricultural Health Service (SENASA)]. November 2006.

<sup>6</sup> See the technical annexes "Informe sobre Justificación Económica del Programa" [Report on Economic Rationale for the Program] and "Programa de Inversión Pública PROG-018-2006 A nivel de Factibilidad" [Public Investment Program PROG-018-2006 at the Feasibility Level], SENASA, 2008.

and net present value were calculated as measures of economic profitability. The parameters estimated by the MEF were used to calculate social prices.

- 4.5 The methodology for estimating net benefits for each project included: (i) definition of the representative product unit and data collection based on primary sources (e.g. inspection and supervision for projects involving quarantine, surveillance, organic production, and host areas in the fruit fly component; number of records for pesticide and livestock input registration projects; number of head of cattle to be vaccinated); (ii) forecasts of sector and foreign trade variables related to each of the projects' representative products; (iii) estimation of demand and supply models using statistical methods based on sector and project-specific variables; (iv) estimation of benefits, in accordance with the extent to which they are a public good: for the case of pure public goods (quarantine and surveillance), the marginal contribution of agricultural health expenditure was estimated in relation to agricultural gross production value (GPV); and (v) consideration of investment costs for the first five years, along with the costs of project maintenance and completion for the last five years. In the case of eradication and control projects, the beneficiaries' private costs were taken into account. Table 4 summarizes the estimated benefits and IRRs obtained for each project. Greater detail on the fruit fly eradication project is provided below, given its importance in relation to the cost of the program.

## **2. Fruit fly eradication project**

- 4.6 In the regions of Ancash, Lima, and La Libertad, an estimated 60,000 fruit and vegetable producers cultivating some 236,800 hectares of farmland are thought to be directly affected by the fruit fly, in addition to other farmers affected indirectly by the restrictions imposed on agricultural trade. The main fruit fly host crops in those regions are mango, grapevine, pepper, apple, tomato, mandarin, avocado, olive, lemon and orange, accounting for over 34% of all production of host crops along the Peruvian coast. In the three regions involved in the program, these crops contribute US\$155.6 million of GPV, representing 4% of national GPV.
- 4.7 The following items were taken into account in calculating the benefits of this project: (i) the cost avoided for farmers in terms of crop treatments (cost of pesticides, application and labor) in the field, estimated at US\$320 per hectare; (ii) a reduction in the percentage of agricultural products infected and hence rendered unusable, estimated empirically according to the degree of eradication (flies captured per day in traps); there is 100% damage reduction when the area is declared pest-free (one year after the most recent detection of the pest); and (iii) an increase in product value as a result of higher prices obtained by farmers on external markets, access to which was currently restricted owing to the presence of the pest. The incremental export value is calculated by projecting the exports of host products, and applying the percentage contribution of agricultural health actions to the increase estimated by statistical model.

### 3. Poverty targeting

- 4.8 Program PE-L1023 does not qualify as a poverty-targeted or social equity enhancing project, according to the Bank's policy, as set out in the Report on the Eighth General Increase in Resources (document AB-1704).

**Table 4: Economic Evaluation Results, by Project**

Project	Estimated benefits	IRR %
Phytosanitary quarantine	Marginal effect of quarantine expenditure on agricultural GPV.	35
	Losses avoided in agricultural production of three crops (grape, cotton, and peaches) as a result of blocking the entry of four pests.	37
Zoosanitary quarantine	Marginal effect of quarantine expenditure on crops and livestock GPV.	22
	Losses avoided in livestock production and exports, as a result of preventing the entry of bovine spongiform encephalopathy, foot-and-mouth disease, and avian flu.	43
Phytosanitary surveillance	Marginal effect of phytosanitary surveillance expenditure on agricultural GPV.	14
	Savings in the use of pesticides to control pests owing to early detection, and fewer production losses.	46
Zoosanitary surveillance	Marginal effect of zoosanitary surveillance expenditure on agricultural GPV.	22
	Losses avoided as a result of fewer diseases in meat and milk production, equine livestock, and fishmeal.	45
Foot-and-mouth disease	Losses avoided in terms of meat exports, plus the cost of having to vaccinate at-risk livestock.	28
Swine diseases	Losses avoided as a result of reducing the prevalence rate of the three main swine diseases.	36
Fruit fly	Savings arising from lower treatment costs, plus smaller losses in production and higher prices obtained on export markets.	25
Food safety	Estimation of willingness to pay for food safety attributable to the project.	39
Veterinary post-registration	Marginal effect of post-registration expenditure on agricultural GPV.	45
Pesticide post-registration	Losses avoided in meat and milk yields from untreated diseases.	43
Organic production	Increase in the exports of the two main organic products (bananas and coffee) attributable to agricultural health services.	60

### C. Financial viability

- 4.9 The MEF declaration of program viability will give SENASA a framework to program budgetary allocations for central government transfers in the country's budget cycle. This will enable SENASA to obtain annual approval of the central government counterpart with a very high success rate, following a preestablished administrative process, given that formal approval depends on the Congress of the Republic.
- 4.10 Possible contributions from regional and local governments to cofinance disease eradication and control campaigns will be formalized in agreements to be signed by

SENASA and the corresponding subnational governments. Such contributions will only amount to 0.5% of the program's overall local contribution. SENASA has set up an operational mechanism to update the annexes of agreements, making it possible to specify subnational government contributions to the program activities in which they participate. Any future contribution to program funding could be made through nonmonetary contributions, financial transfers, or the transfer of land. Any financial transfers would be executed through the Project Management Office, whereas transfers of land would be recorded in the SENASA balance sheet accounts.

- 4.11 With respect to monetary and nonmonetary contributions made by beneficiaries to disease eradication and control campaigns, SENASA has implemented a participatory intervention strategy to provide motivation, training, and incentives for beneficiary participation.
- 4.12 Activities envisaged for strengthening permanent quarantine and surveillance services (component 1) and agricultural input and food safety systems (component 2) will generate recurrent costs for SENASA. During execution, SENASA will program recurrent incremental expenses as part of its budgetary programming, which will be backed by the MEF's administrative approval of the program. Incremental financial obligations after program completion amount to US\$3.8 million, which could be funded through direct transfers from the central government or through own resources obtained by SENASA directly. The latter are expected to increase, given the larger volume of services provided in response to higher levels of economic activity.

#### **D. Environmental and social viability**

- 4.13 The program will generate clearly positive environmental and social impacts by: (i) guaranteeing the safety and quality of food products for local consumption and for export; (ii) reducing the use of chemical pesticides in favor of biological ones; (iii) making quality seeds more readily available; (iv) establishing post-registration control of pesticides and veterinary medications; (v) promoting the use of good agricultural production practices, particularly organic farming; and (vi) encouraging cooperative-partnering arrangements.
- 4.14 The environmental and social evaluation performed during program preparation<sup>7</sup> rated the capacity of SENASA as an executing agency responsible for the environmental management plan for loan 1647/OC-PE as adequate. In particular, the study found that the process control mechanisms were well designed and resources were available for implementing them. It also concluded that the environmental management plan for that operation was executed satisfactorily, despite a delay in contracting the environmental auditor, and that the various mitigation measures were executed satisfactorily or were being implemented.

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<sup>7</sup> See technical annex entitled "SENASA. Informe de Gestión Ambiental y Social" [Environmental and social management report].

- 4.15 Four participatory workshops were held in the beneficiary regions as part of program preparation. Participants included producers, service providers, representatives from civil society and government authorities, and trade associations. Producers expressed their support for the efforts made by SENASA particularly in terms of handling pesticides and pesticide residues.
- 4.16 Program execution is not expected to have any negative socioenvironmental impacts. The quarantine stations' infrastructure is small in scale, and relatively simple equipment will be used. Sound construction and work practices will be adopted during implementation of these stations, focusing on effective management of the construction phase and of the waste material generated by their operation. The program envisages the following mitigation measures:
- e. Programs to communicate and disseminate environmental and social impacts (paragraph 2.6 and 2.7). The program will include a far-reaching campaign on environmental management, promotion of cooperative-partnering arrangements, and information on the risks of exclusion for producers in the zone; and, in particular, it will promote the program's potential benefits in terms of improved and greater product supply. This campaign will help minimize any potential conflicts arising from the introduction of new crops that benefit from the eradication of pests, which in general have their own biological needs and could affect other traditional crops. The campaign will also make it possible to include stakeholders from a given zone in the benefited crops and livestock products, i.e. self-excluded marginal producers who could represent a threat to producers using good pest and disease eradication practices.
  - f. Handling of plastic residues (paragraph 2.5c). The strengthening of agricultural input systems under program component 2 will make it possible to reduce the environmental risks associated with inadequate handling of agrochemical packaging. During program execution, the amount of such packaging is expected to increase by 3.5% in the domestic market over the 810 metric tons/year recorded in 2006, with some agroexporting regions, such as La Libertad, generating an additional 4.5% as result of the use of agrochemicals. Post-registration control activities will reduce the potential impact by having producers use the triple washing technique, which will render packaging material harmless and allow for subsequent recycling. The scheme will put the corresponding regulatory measures in place and promote recycling by pesticide producers themselves by including this as a requirement in public tenders.
  - g. Hiring of an environmental auditor (paragraph 3.6). The SENASA PMU will make sure the program complies with environmental legislation. The program will hire an environmental auditor for this, covering the country's environmental legislation and SENASA's own regulations on the subject.

- h. Support from the SENASA Institutional Planning and Development Office (paragraph 3.10). In addition to the environmental specialist, the task of supervising compliance with environmental legislation by the SENASA PMU will be supported by the Institutional Planning and Development Office, which handles environmental management within the institution. This office is responsible for coordination within SENASA to ensure that the projects developed maximize the positive environmental impacts and help mitigate any environmental risks.

#### **E. Risks**

- 4.17 The program does not involve execution risks that are very likely to occur or that would have a high impact. One risk with a low likelihood of occurrence is that the currently favorable conditions on external markets may change and adversely affect agricultural exports. Although the terms of trade, which have favored Peruvian agroexports over the last decade, are expected to fall, the reduction in international prices as a result of weaker demand is not expected to be significant. The potential risks of lower prices would be mitigated by expected productivity gains arising from the agricultural health improvements implemented by the program.
- 4.18 A medium risk is that there would be a low level of participation by regional governments in applying health regulations and implementing pest and disease control and eradication campaigns. Although SENASA maintains strong coordination links with those governments, the political setting could cause a change in the level of collaboration. Although no change of this type is expected in the short run, SENASA, as a national authority, plans to use the own resources it allocates to its deconcentrated offices in the regions to avoid jeopardizing control and eradication efforts, which are national public goods given their biological propagation.

**PERU**  
**PROPOSED CONDITIONAL CREDIT LINE (CCLIP) FOR THE NATIONAL AGRICULTURAL HEALTH SERVICE LONG-TERM INVESTMENT PROGRAM**  
**(PE-X1002) AND**  
**INDIVIDUAL LOAN FOR THE AGRICULTURAL HEALTH AND AGRIFOOD SAFETY DEVELOPMENT PROGRAM (PE-L1023)**

**LOGICAL FRAMEWORK**

Narrative summary	Indicators	Means of verification	Important assumptions
<b>A. GOAL</b>			
To help make the agricultural sector more competitive and enhance the health of the population.	<ul style="list-style-type: none"> <li>The regions of Tumbes, Cajamarca, Piura, Lambayeque, La Libertad, Ancash, and Lima are declared foot-and-mouth disease (FMD)-free with vaccination two years after the end of the program.</li> <li>211,553 hectares of farmland in the province of Cañete, Lima region, achieve international recognition as fruit-fly-free (<i>Ceratitis capitata</i> and the <i>Anastrepha</i> complex).</li> <li>Peru's agricultural exports increase from US\$1.79 billion in 2007 to US\$4.5 billion two years after the end of the program.</li> </ul>	<p>Resolution issued by the World Organisation for Animal Health (OIE)</p> <p>Protocol, memorandum of understanding, or phytosanitary requirement of the destination country</p> <p>Official export statistics, SUNAT, MINAG, INEI, MEF</p>	
<b>B. PURPOSE</b>			
To raise levels agricultural health, agrifood safety, and agricultural input supply systems and strengthen their protection.	<ul style="list-style-type: none"> <li>The number of new international markets opened for agricultural exports as a result of the country's agricultural health improvements increases by nine in year 3 of program execution and by 15 by the end of the program.</li> <li>The current number of rejections of agricultural exports certified by SENASA stays below three shipments per year as from year 3 of program execution.</li> <li>Outbreaks of diseases relating to food safety and the handling of pesticides and veterinary products in 10 regions of the country decrease by 3% in year 3 of program execution and by 10% at the end of the program (baseline to be calculated in year 1)</li> </ul>	<p>Work plans, requirements or communications by the agricultural health authorities</p> <p>Notes of noncompliance issued by importing countries</p> <p>Ministry of Health statistics and independent studies</p>	<p>Demand on international markets for Peruvian agricultural export products is maintained.</p> <p>Agroclimatic conditions behave normally.</p>

Narrative summary	Indicators	Means of verification	Important assumptions
<b>C. COMPONENTS:</b>			
<b>1. Strengthening of phyto- and zoosanitary quarantine and surveillance systems</b>	<ul style="list-style-type: none"> <li>• Response time for notification of the main pests and diseases identified on site is reduced from 10 days in 2008 to five by the end of the program.</li> <li>• The inspection of accompanied baggage and postal packages increases from 0% coverage in 2008 to 100%, as from year 3 of the program.</li> <li>• Outbreaks of pests or diseases regulated as exotic in 2008 in Peruvian territory and free zones entering through Tumbes, Piura, Cajamarca, Lima and El Callao remain at zero throughout program execution.</li> <li>• Crop coverage subject to phytosanitary inspection increases from 11,319 hectares per year in 2008 to 439,914 hectares by the end of the program.</li> <li>• Times for reporting and circulating phytosanitary information decrease from 30 days to 7 by the end of the program.</li> <li>• Time taken to deal with 90% of notifications of diseases of national risk decreases from 7 days in 2006 to 3 by the end of the program.</li> <li>• At least 95% of agricultural pesticides sold on the domestic market fulfill the quality characteristics established in the registry by the end of the program.</li> </ul>	<p>User service system reports (SAU)</p> <p>User surveys</p> <p>Supervision reports on the inspection of baggage and postal packages</p> <p>Reports issued by the OIE</p> <p>Phytosanitary reports of the Integrated Plant Health Management System (SIGSVE)</p> <p>Phytosanitary reports posted on the SENASA website</p> <p>Epidemiological reports of the Integrated Animal Health Management System (SIGSA)</p>	<p>Close coordination is achieved between SENASA and regional governments in applying health regulations.</p>



Narrative summary	Indicators	Means of verification	Important assumptions
<b>2. Strengthening of input delivery and agrifood safety assurance systems</b>	<ul style="list-style-type: none"> <li>• The percentage of livestock inputs sold on the domestic market that fulfill the quality characteristics established in the registry rises to 95% by the end of the program.</li> <li>• The percentage of agricultural products certified as organic that are guaranteed by the State rises to 95% by the end of the program.</li> <li>• The number of shipments rejected because of contaminants present in exports of produced or primary processed food products drops from 43 in 2006 to 9 by the end of the program.</li> <li>• The percentage of contaminants present in 25 produced or primary processed food products sold in the markets of the cities of Arequipa, Cajamarca, Ica, Trujillo, Chiclayo, Lima, Piura, Puno, Tarapoto and Tacna decreases to 10% by the end of the program.</li> </ul>	<p>Reports on post-registration inspection of the Integrated Agricultural Input Management System (SIGIA)</p> <p>SIGIA post-registration inspection reports</p> <p>Official market inspection report</p> <p>Notifications of rejection issued by official authorities</p>	<p>The list of third countries is maintained in the European Union.</p> <p>Other countries adopt the mutual recognition system.</p>
<b>3. Control and eradication of animal diseases</b>	<ul style="list-style-type: none"> <li>• The regions of Ica, Arequipa, Lima, La Libertad, Lambayeque and Piura are officially declared as free of classic swine fever, Aujeszky's disease, and porcine reproductive and respiratory syndrome (42% of the population) by the end of the program.</li> <li>• The prevalence of classic swine fever, Aujeszky's disease, and porcine reproductive and respiratory syndrome in the other 10 regions of the country decreases from 23% (in terms of blood serum), 2.2% and 4.6%, respectively, to 1% in all three cases by the end of the program.</li> <li>• The regions of Tumbes, Cajamarca, Piura, Lambayeque, La Libertad, Ancash, and Lima are officially recognized by SENASA as FMD-free zones by the end of the program.</li> <li>• No foot-and-mouth disease in disease-free regions during program execution.</li> </ul>	<p>Resolution issued by the SENASA Board of Directors</p> <p>Official reports of the Integrated Animal Health Management System (SIGSA)</p> <p>Board resolutions</p> <p>Notification reports sent by the SENASA Integrated Animal Health Management System to the OIE and PANAFTOSA.</p>	<p>Close coordination is achieved between SENASA and regional governments during the planned control and eradication campaigns.</p>

Narrative summary	Indicators	Means of verification	Important assumptions
<p>4. <b>Eradication of the fruit fly</b></p>	<ul style="list-style-type: none"> <li>• The cumulative number of hectares of farm land free of the fruit fly (<i>Ceratitis capitata</i> and the <i>Anastrepha</i> complex) in the province of Cañete, Lima region, increases from 182,470 to 211,553 by the end of the program (measurement method: Fly level/trap/day–F/T/D of zero for one calendar year).</li> <li>• The number of new hectares of farm land from which the fruit fly has been eradicated (<i>Ceratitis capitata</i> and the <i>Anastrepha</i> complex) in the provinces of Huaral, Huaura, Barranca, Cajatambo and Yauyos in the Lima region; the whole of the Ancash region and in the provinces of Virú and Pataz in the region of La Libertad is 207,668 by the end of the program (measurement method: Fly level/trap/day–F/T/D of zero).</li> <li>• 236,751 hectares of farm land in the post-eradication phase and fruit-fly free areas not needing to use chemical pesticides to control the fruit fly by the end of program execution.</li> </ul>	<p>SENASA resolution and surveillance system report</p> <p>Official MINAG statistics and Integrated Fruit Fly Information System (SIIMF) report</p> <p>SENASA studies and surveys and reports of eradication committees</p>	<p>Close coordination is achieved between SENASA and regional governments during the planned control and eradication campaigns.</p>

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/08

Peru. Conditional Credit Line (CCLIP) for a National  
Agricultural Health Service Long-Term Investment Program

The Board of Executive Directors

RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such agreement or agreements as may be necessary with the Republic of Peru, to establish a Conditional Credit Line (CCLIP) for a national agricultural health service long-term investment program, hereinafter referred to as the "Credit Line", of up to the sum of US\$175,000,000, chargeable to the resources of the Single Currency Facility of the Ordinary Capital of the Bank.
2. That the establishment and utilization of the Credit Line shall be carried out in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects established by Resolution DE-58/03 adopted on 16 July 2003 and amended by Resolutions DE-10/07 and DE-164/07 adopted on 31 January and 19 December 2007, respectively; and (b) the specific provisions set forth in Document GN-2246-7.
3. That the approval of individual operations, chargeable to the Credit Line, shall be subject to, with the exception of the first of such operations, the satisfactory performance of the previous program or programs financed under the Credit Line.
4. That the amounts authorized to finance individual operations chargeable to the Credit Line shall be granted as individual loans subject to the usual financial terms and conditions applicable to individual loan operations financed with the resources of the Single Currency Facility of the Bank's Ordinary Capital, in force at the time that the individual operation is approved, which shall be specified in the executive summary of the corresponding loan proposal.

5. That the signature of the loan contract between the Republic of Peru and the Bank for the financing of the first individual loan operation will be subject to the signature and enter into force of the agreement or agreements between the Republic of Peru and the Bank to establish the Credit Line.

(Adopted on \_\_\_\_ 2008)

LEG/SGO/PE-1509390  
PE-X1002

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/08

Peru. Loan \_\_\_/OC-PE to the Republic of Peru  
Agricultural Health and Agrifood Safety  
Development Program

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Peru, as Borrower, for the purpose of granting it a financing to cooperate in the execution of an agricultural health and agrifood safety development program. Such financing will be for an amount of up to US\$25,000,000 from the Single Currency Facility of the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_\_\_\_ 2008)

LEG/SGO/PE-1509396-08  
PE-L1023