PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EUR 41.40 MILLION
(US$50.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF ROMANIA

FOR A

MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

October 18, 2004

Environmentally and Socially Sustainable Development Unit
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2004)

Currency Unit = EUR
ROL 41,088 = EUR1

Currency Unit = USD
ROL 34,104 = USD1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AKIS  Agricultural Knowledge and Information Systems
ANCA  National Agency for Agricultural Consulting
ANSVSA  National Authority for Sanitary, Veterinary and Food Safety
ARDI  Agricultural Research and Development Institute – Fundulea
ASAS  Academy of Agricultural and Forestry Sciences
BIP  Border Inspection Posts
CAP  Common Agricultural Policy
CGS  Competitive Grant Scheme
CGSTU  Competitive Grant Scheme Technical Unit
CJCA  Judets Council for Agricultural Consulting
CLCA  Local Council for Agricultural Consulting
DGAIA  General Directorate for Agriculture and Food Industry
DADR  Directorate for Agriculture and Rural Development
EU  European Union
GMO  Genetically Modified Organisms
IBNA  Animal Biology and Nutrition Institute - Balotesti
MAFRD  Ministry of Agriculture, Forests, and Rural Development
MAKIS  Modernizing Agricultural Knowledge and Information Systems
MER  Ministry of Education and Research
MOPF  Ministry of Public Finance
NARS  National Agricultural Research System
NGO  Non-governmental Organization
NRDIBH  National Research and Development Institute for Biotechnology in Horticulture – Stefanesti
PMU  Project Management Unit
PSRDI  Potato and Sugar Beet Research and Design Institute – Brasov
RISSA  National Research and Development Institute for Soil Science, Agrochemistry and Environment Protection
SAPARD  Special Accession Program for Agriculture and Rural Development
USAMV  University of Agricultural Sciences and Veterinary Medicine

Vice President: Shigeo Katsu
Country Manager/Director: Anand K. Seth
Sector Manager: Benoit Blarel
Task Team Leader: Doina Petrescu
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A. STRATEGIC CONTEXT AND RATIONALE

1. Country and sector issues

Romania is scheduled for accession to the European Union in 2007. Towards this objective the Government is actively working to meet EU requirements and obligations as laid down in the *acquis communautaire* ("body of the laws of the European Union"). With agricultural and food legislation making up about half of the *acquis communautaire* ("body of the laws of the European Union"), one of the major challenges for the Romanian Government is to create a competitive and efficient national agricultural sector that is in compliance with EU requirements. Recognizing this, the Government has accorded top priority to the agriculture and food sectors over the past few years and is working closely with the EU, several EU countries, bilaterals and the Bank.

*Agriculture*. Agriculture plays a dominant role in the economy of Romania. The sector employs 44% of the total labor force of Romania. Seventy percent of the rural population of Romania (approximately 4.8 million people) is engaged in agriculture. From a total area of 23.8 million ha, utilized agricultural area represents 14.8 million ha or 62% of the total. This is one of the highest shares of cultivated land in all EU member states. Despite its size, the sector has failed to live up to its potential and accounted for only 13% of GDP in 2000 (in 1990, share of GDP was 23%). Although, the potential for agricultural production is high in Romania, productivity levels are extremely low. The productivity per employed person in agriculture represents about 6% of the average level in the European Union. Land productivity measured as gross agricultural output per hectare is about 27% of the average level in the EU.

Agricultural production in Romania has become inefficient and fragmented as there are over 4.5 million agricultural holdings varying from less than 1 ha to 2,000 ha in size. Currently some 23,000 agricultural holdings are farming 40% of the arable land area. Romanian agriculture is dominated by the individual or household farm that constitutes 70% of the farming community and produces 87% of agricultural output. More recently, large farming enterprises are being established to take advantage of the new opportunities especially in the fertile plains. This is causing increased income inequality and social exclusion as small farms are surrounded by larger, more efficient farms.

*Food Safety*. Contrary to stagnating output and low productivity in agriculture, the food industry has achieved significant growth in recent years and productivity in the food industry, which more than doubled between 1990 and 2000, is increasing at a mean annual rate of 7.8%. However, food safety and consumer confidence continue to be an issue. At this stage, food safety regulations and quality standards do not match EU standards and the Romanian food industry is generally unprepared for the new competitive environment associated with EU accession. Romanian producers lack information on the EU quality standards as well as the training, skills, technologies and services needed to meet the appropriate EU quality standards, which will ensure their future access to European markets.

*Agricultural Knowledge and Information Systems*. The creation of a competitive agricultural sector that would allow Romania to function effectively in the new EU environment is largely
dependent on the existence of an efficient national agricultural knowledge and information systems (AKIS). Currently, the capacity of the Romanian AKIS is inadequate in assisting farmers and the agro-food industry to meet relevant agricultural EU directives that will allow them to capture the benefits of EU accession. The EU places particular emphasis on the maintenance of “land in good agricultural condition” and for farmers to be eligible for direct single farm payments, they would be required to maintain and conserve their land resources, and comply with statutory requirements regarding public, animal and plant health, occupational safety, environment and animal welfare. In this context, Romania’s farmers associations are key to effectively creating larger operational farm units while leaving the ownership with small holders. For Romanian farmers to become competitive in the EU and obtain the benefits of the Common Agricultural Policy (CAP), they will require much more effective access to information and research results than in the past. However, the current research, extension and education sub-sectors are inefficient and not well positioned to assist Romania in preparing for, or taking advantage of, accession to the EU, which is envisaged in 2007.

Current status of Agricultural Research. Due to budgetary constraints, public sector funding for agricultural research has declined from US$30 million in 1990 to US$4.3 million in 2002 (85%). The Government spent only 0.16% of GDP in 2003 on R&D, which is the lowest among EU countries. The overall decline in public sector funding of agricultural research has had a number of negative effects: inadequate funds for salaries, investment in infrastructure and the effective implementation of research programs; a serious decline in the number of researchers and especially, failure to attract young scientists and graduates; dilapidated research infrastructure; a loss of mobility of researchers; reduced access to external information; low output, etc. There remains a centralized agricultural research structure comprised of a large number of highly-specialized and narrowly-focused institutes and organizations that are increasingly resorting to commercial activities to supplement their meager budgets rather than providing the technology and information most needed by the farming communities. Considerable work therefore needs to be done to improve the ability of the National Agricultural Research System (NARS) to undertake the technology development and information generation required to improve the competitiveness and sustainability of the Romanian agricultural and rural sectors to meet EU accession challenges.

Extension. The National Agency for Agricultural Consulting (ANCA) and its judet (county) level extension offices that are responsible for supplying farms with practical information, advice and professional training have been unable to effectively discharge their responsibilities. This is primarily due to the fact that the operation and control of the judet level extension staff was transferred to the judet administrations in 2000, which often resulted in the use of local extension staff to undertake non-extension activities. Today, a large part of the farming and rural community lacks appropriate knowledge, experience and skills in relation to farm and business development as well as relevant EU requirements. There is limited integration of extension activities with the Ministry of Agriculture, Forests and Rural Development (MAFRD) and agricultural research, which has hindered knowledge and technology, transfer to the small farmers. The skill base and experiences of many extension personnel are inadequate to meet farmers’ needs. Moreover, there is insufficient direct contact between farmers and extension personnel so that farmers consequently have little confidence in the local extension services.
Education. The agricultural education system in Romania has had difficulties in adjusting to the demands of farmers and a market based agricultural economy. Curricula are still out-dated with a lack of emphasis upon farm business management, marketing, economics, EU and international standards, and entrepreneurial skills. This deficiency is particularly acute in relation to the requirements for managing small- to medium-sized family farms and particularly acute in pre-university education. The present education system lacks modular educational and training systems for farmers; the need for such a system is urgent as many farm workers in the old system with minimal or no education have become farmers since the reform.

2. Rationale for Bank involvement

Recognizing the need for high quality agricultural services to improve competitiveness and sustainability of the agricultural and rural sectors and to facilitate compliance with the obligations of membership laid out in the *acquis communautaire* ("body of the laws of the European Union"), the World Bank Country Assistance Strategy (CAS) for 2002-2004 identified the need for "...increased research and extension aimed at integrating small households into commodity and input markets." Since 1999 the World Bank has assisted Romania in rebuilding capacity for applied agricultural research and technology dissemination through an "Agricultural Support Services Project" (ASSP). The ASSP, through the "Competitive Grant System" provided grant funds to research and information providers to work on the most urgent problems facing the farming community in the areas of technology and information dissemination. However, it did not assist in reform and modernization of Romanian AKIS to meet the new needs of farmers in the context of EU accession. The Project also comprised a modest institution building component mainly aimed at strengthening the national public extension service. The December 2002 mid-term review confirmed that although project progress was satisfactory, Romanian AKIS was in need of deeper reforms to facilitate overall agricultural and rural development and compliance of the sub-sectors with EU accession requirements.

Romania is actively working to meet the challenges of EU accession in the area of agriculture. Although substantial progress is underway, there remains a significant unfinished agenda. The EU places particular emphasis upon public, animal and plant health, occupational safety, environmental protection and animal welfare as well as the existence of sustainable agricultural research, extension and education systems with a clear distinction between public and private goods and responsibilities. EU requirements in food safety include: (i) enactment and enforcement of food legislation (general rules for food hygiene and control, food labeling, food additives, food packaging and genetically modified foods), (ii) veterinary and phyto-sanitary norms; (iii) animal nutrition and welfare (standards on animal nutrition, regulation on food and feed controls, etc.); and (iv) establishment of a national agency for food safety. The Government has already decreed the establishment of the Romanian National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and agreed on its structure, role and functions, based on the model of the Danish Food Safety Authority. There are no EU directives concerning agricultural research and it is up to member states to organize these services. The EU has established the *European Research Area* (ERA) to integrate Europe’s scientific and technological efforts and each member state is required to establish a research system that can be integrated into the ERA. Also, the states should not subsidize research institutes with large lands used for commercial purposes. The research institutes should provide technologies and
information to farmers so that the farming practices meet the EU requirements for food safety and environmental sustainability. As regards advisory services, there are no EU directives concerning agricultural advisory services and it is up to member states to organize these services. However, the EU emphasizes the need to establish an effective advisory system so as to ensure compliance by farmers with EU requirements. Although Romania has completed its negotiations with EU on agriculture and has harmonized the laws and regulations to meet EU requirements, the Government acknowledges the challenges in implementing these policies. The Republic of Romania is receiving substantial technical and financial assistance from the EU, through its PHARE and SAPARD programs, as well as from a number of EU countries and bilaterals in its compliance efforts. However, critical work still remains to be done. The Government has requested World Bank assistance to fill specific gaps in some areas that are not being funded by the EU or other donors. These include:

**Food Safety.** The Government has requested Bank assistance in building institutional capacity of the ANSVSA and the phyto-sanitary units. Specific areas for which the Government has requested World Bank support are the following: (i) implementation of the agreed overall structure of the ANSVSA; (ii) building capacity in Risk Assessment, Management and Communication; (iii) the establishment of a Rapid Alert System for Food & Feed; (iv) the Communication System between the center, regions and counties; (v) training of staff at the center and the counties in EU requirements for its activities related to development of food safety standards, inspection, testing, enforcement and communications; (vi) modernization and accreditation of national reference laboratories and a few regional laboratories; (vii) establishment of two or three border inspection posts; (viii) strengthening the Phyto-Sanitary Directorate within MAFRD and (ix) human resource development.

**Research.** During the past few years, the Republic of Romania has developed a vision for overall re-structuring of the national research system in line with EU “State Aid” principles; it is currently examining different options to achieve this goal. However, to apply such reforms across the entire AKIS is a long-term undertaking. The Government has therefore requested Bank assistance in implementing far-reaching institutional reforms at five “core” research institutions that would be involved in the implementation of four selected, stakeholder-endorsed, high priority research programs which are related to immediate EU accession needs. These applied research programs are: (i) sustainable lowland and upland farming systems, including field crops and livestock; (ii) horticultural crops and GMO certification; (iii) land, water and environment issues associated with agricultural practices; and (iv) profitable, environmentally sustainable and safe animal nutrition and feeding systems. In addition, and to complement this effort, Bank financing has been requested for the mainstreaming of the “Competitive Grant Scheme” currently supported under the ASSP, into the regular operations of the Ministry of Agriculture, Forests and Rural Development (MAFRD).

**Advisory Services.** While the EU is providing some support through SAPARD’s training program, this is aimed only at the large-scale beneficiaries of EU investment measures and no

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1 EU State Aid rules require that research institutes that receive both funding from the national budget as well as significant fiscal and other advantages from cross-subsidizing between research and production activities will not be allowed to compete in the EU market. The rules also require that the research be of general interest and the results be made available on a non-discriminatory basis.
other donors are assisting the MAFRD to meet the needs of the medium and small-scale farmers. The Romanian Government has requested Bank assistance to improve the efficiency of Romania’s advisory services to better serve the needs of farmers/producers and processors. First, there is a need to improve the flow of information on EU requirements and standards related to production, quality control, food safety, processing and marketing. Second, there is a need to assist the farmers and agro-processors with modern agricultural technologies and farm management techniques, based on their needs. This would entail: (i) training and accreditation of extension providers; (ii) setting up knowledge and information data base and production of extension package materials; (iii) putting in place mechanisms to effectively utilize the existing public and private suppliers of advisory services; and (iv) strengthening institutional capacity of existing public advisory system through training and logistical support.

The proposed project responds to the requests received from the Republic of Romania and will contribute to MAFRD’s overall preparedness to fulfill the implementation requirements for EU accession. The Bank is well positioned to assist the Government to implement its agricultural reform program because of the experience gained through several operations in the agriculture sector, in particular the Agriculture Sector Adjustment Loan (ASAL) and the Agricultural Support Services Project. The ASSP in particular clearly brought into focus the strengths and weaknesses of the existing agricultural research, extension and education sub-sectors and has provided overall guidance for the establishment of an effective and sustainable research and advisory and information systems.

3. Higher level objectives to which the project contribute

The project was designed in response to the Government’s Strategy for the Development of Agriculture, Food Industry and Forestry for the medium- and long-term (2001-2005 and 2005-2010). This strategy elaborates the objectives of the agricultural sector as: “productivity and quality increases of agro-food products, the modernization and the improvement of food processing and marketing chains as well as increase of agricultural producers’ income and the sustainable development of rural areas, in compliance with environmental protection requirements, in order to create a competitive sector which should meet the common market requirements”.

By assisting the Government in this area, the project also contributes to the CAS objectives of promoting knowledge-based economic growth, building institutional capacity to meet the EU accession requirements and to address the competitive challenges faced by the agricultural sector, and providing opportunities for farmers and agro-processors for future access to European markets.
B. PROJECT DESCRIPTION

1. Lending instrument

The project will be financed by a Specific Investment Loan (SIL) of EUR 41.40 million. This lending instrument was chosen based on the Government’s need to have flexibility in making investments in institution building, covering infrastructure and human development of the Agricultural Knowledge and Information Systems.

2. Project development objective and key indicators

The development objective of the project is to assist the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment. This will be achieved through: (i) strengthened National Authority for Sanitary, Veterinary and Food Safety and better implementation of measures for inspection control, risk management and communication in food safety matters; (ii) modernized and strengthened national research and extension system to provide staff in the food safety agency as well as within the research and extension organizations with necessary agricultural knowledge, skills, and technology facilities; (iii) improved technology development and advisory services to ensure access to relevant information and technology by the farming community; and (iv) increased access of farmers and processors to knowledge of technologies related to production, quality control, food safety, processing and marketing in order to meet EU requirements.

The Project is not a poverty-focused operation. The essential aim of the project is to help the farming community to achieve increased and sustainable productivity, and meet relevant EU agricultural directives that will allow them to capture the benefits of EU accession. The primary beneficiaries would be middle-sized and small farmers with the potential to become commercial.

Overall project impact will be measured in terms of: increased food safety; improved agricultural productivity and competitiveness; and increased access to and adoption of improved farm practices, marketing and post-harvest technologies leading to increased household incomes.

3. Project components

The project will consist of four components to be implemented over five years. (See Annex 4 for a detailed description of each component)

Component 1: Strengthening the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and the Phyto-sanitary Units (EUR 11.379 million)

Objective: The objective of the project support will be to strengthen the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and Phyto-sanitary units so that they are better able to (i) implement the new food safety regulations adopted by Romania in compliance with EU accession requirements; and (ii) provide the necessary control and verification of fresh and processed products to enable farmers, agro-industry and food processors to supply local and international markets. The following activities will be financed:
Institutional Capacity Building through (i) strengthening ANSVSA’s communications system with support for information technology; (ii) developing an effective public awareness system, including the establishment of a press office; and (iii) training and technical assistance.

Laboratory Needs under EU:

(i) National Reference Laboratories. Two National Reference Laboratories under ANSVSA would be supported by the project: the Institute for Veterinary Hygiene and Public Health (IVHPH), for which cost of the building construction would be supported by the project; and a laboratory facility for analysis of animal feeding stuffs which would be established on the same site, for which the project will provide financing for some equipment. The necessary space for the laboratory will be allocated in the building for IVHPH that will be built under the Project.

(ii) Regional Laboratories. In regard to the regional laboratories, it was agreed to support the provision of essential equipment in three laboratories: Brasov, Bucuresti and Prahova. Support will also be provided for refurbishing the Prahova laboratory in order to improve the flow of the laboratory’s activities.

Support for Border Inspection Posts (BIP): The project would provide for investments in civil works and equipment at three Border Inspection Posts: Constanta North, Constanta South and Otopeni. Constanta has two entry points and covers almost 60-70% of all imports and exports. It is therefore one of the most important BIPs and the Project will provide support to both entry points. ANSVSA already has the equipment required for the BIPs. The Project will primarily support the rehabilitation of buildings and some facilities for both veterinary and phyto-sanitary border control.

Animal Welfare: ANSVSA would contract the Pasteur Institute to carry out a program for Animal Welfare in livestock production to demonstrate the EU requirements. Towards this, the project will develop a model Demonstration and Training Facility and provide training to trainers as well as farmers and producers. The Pasteur Institute is a private institute; thus the project will benefit from the contributions of the private sector. The Pasteur Institute, although now a privatized institute, retains the mandate to support Romanian farmers to improve their livestock and poultry production. The Institute has a long history of good quality research, the best qualified staff in the country in the livestock sector and has updated research and farm facilities. Currently, there are no other alternative institutes or agencies in Romania with experience, facilities and quality of staff to develop the facilities for animal welfare training as envisaged under the Project. Also, since training has to be undertaken in the local language and within the country setting, the work cannot be contracted outside Romania. More importantly, the MAFRD and ANSVSA have reviewed all alternatives and jointly considered the Pasteur Institute as the only institute that is uniquely qualified and can effectively and efficiently undertake this task. The Pasteur Institute has prepared a detailed plan for this activity in collaboration and agreement with ANSVSA.
Phyto-sanitary units: The project would support the Phyto-sanitary Department in MAFRD, including the two National Reference Laboratories as well as the county laboratories within the department. The staff of the Phyto-sanitary Department, having recently been increased in order to comply with EU requirements, requires training and additional IT facilities to carry out its functions effectively. The National Reference Laboratories to be supported under the project include: (i) the Central Laboratory for Phyto-sanitary Quarantine and (ii) the Central Laboratory for Pesticides Residues Control for Plants and Plant Products. Both laboratories need strengthening through additional laboratory equipment in order to receive accreditation. The County Laboratories require IT facilities and specific laboratory equipment in order to implement the national monitoring programs.

Training Program: The project will support the ANSVSA in implementing its staff-training program for information technology; training of food inspectors would be undertaken by both ANSVSA and the Training & Information Center (TIC) supported under the project.

Component 2: Support for Agricultural Research (EUR 19.439 million)

The objective of the agricultural research component is to strengthen the capacity of the national agricultural research system (NARS) to provide agricultural knowledge, skills and information to farmers and agro-processors based on the needs of the agro-food sub-sector and in line with the EU requirements. The activities designed under this component aim to improve the ability of the research community to undertake the technology development and information generation and dissemination required to improve the competitiveness and sustainability of the Romanian agricultural and rural sectors as well as to meet EU accession challenges.

The Project would support Romania's agricultural research system through the following three sub-components:

(a) Reform Program: The Republic of Romania, in consultation with a broad spectrum of stakeholders and in response to EU accession requirements, has identified four urgent priority areas of research based on comparative advantage, potential for export earnings, social and economic importance and the national strategy for food safety. These programs provide core public research services that are key to Romania's agricultural development and the EU accession agenda. They include: (a) generating safe plant nutrient management practices and the identification and monitoring of vulnerable zones in terms of soil fertility and water quality, including developing remedial measures and promoting good agricultural practices; (b) producing high quality, authentic planting materials for horticultural, vegetable and ornamental crops, and the establishment of capacity to certify the absence of genetically-modified organisms (non-GMO) in plants and food products of plant origin, and development of bio-safety and regulatory procedures for GMO; (c) generating profitable, environmentally safe, diversified cropping systems for the production of high quality food and feed within an overall Field Crops Research Program for plain and upland areas, including arable crops, forages, potatoes; and (d) establishing profitable, environmentally sustainable and safe animal nutrition and feeding systems.
To address these priority research programs, five priority Research Institutes have been identified that will become “Centers of Excellence.” The selection of these institutes was jointly agreed upon by MAFRD, Academy of Agriculture and Forestry Sciences, Ministry of Education Research and Youth as well as the relevant stakeholders. Each of the five research institutes will undertake key reforms so as to transform themselves into well-performing entities that would assist Romania meet and comply with EU accession requirements in research. It has been formally agreed through a signed statement with each Research Institute, ASAS, and MAFRD that, during the first year of MAKIS implementation, the Institutes will develop a detailed action plan, including work programs, time-bound implementation plans and budgets for the reforms to be undertaken and the priority research programs to be initiated (See Annex 4, Attachment 2). The implementation plans will reflect a realistic phasing and sequencing of reforms, with milestones/triggers for receiving MAKIS funds. The institutes will be able to use the earmarked funds only after the detailed action and implementation plans are jointly approved by the Government and the Bank, and when each research institute meets the reform triggers as agreed in the institutional development plans.

The project would provide technical assistance to these institutes for the preparation of these plans for reform, and subsequently investments for their implementation. Although all five research institutes are committed to completing their reform plans before the end of PY1, if any institute prepares and receives approval of the plan earlier, its implementation could start in PY1 itself.

(b) Establishing National Reference Laboratories necessary to be functional immediately after accession for implementation of: (a) the EU nitrates and sludge directives, and (b) testing for the presence of Genetically Modified Organisms (GMO). The project would provide initial equipment and operating costs to enable two laboratories (at RISSA and NRDIBH) to become accredited by the EU and gear up to provide the analytic services required in respect of EU requirements.

c) Mainstreaming the Competitive Grant Scheme (CGS) into Government (MAFRD) agricultural research funding for core public sector activities. The ongoing ASSP competitive grant funding for applied research will be expanded and mainstreamed gradually over the life of the project as one of MAFRD’s core activities. The CGS funds would be available to fund any research enterprises, including National Institutes under MAFRD, other institutes under ASAS and the private sector. The project will encourage grant support to private and non-governmental providers of research and extension to enhance private sector involvement in AKIS. The ASSP CGS Operational Manual, which has been revised on the basis of lessons learned and international best practices, would continue to provide the guiding principles for awarding and managing research grants. The technical operation of the CGS will be the responsibility of an MAFRD CGS Technical Unit, which, under the overall supervision of the CGS Board, would handle identifying and updating research priorities, evaluating research proposals and awarding

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2 The National Research and Development Institute for Soil Science, Agro-chemistry and Environmental Protection (RISSA) in Bucharest; the National Research and Development Institute for Bio-technology in Horticulture (NRDIBH) at Stefanesti; the Agricultural Research and Development Institute (ARDI) at Fundulea; the Potato and Sugar Beet Research and Development Institute (PSRDI) in Brasov; and the Animal Biology and Nutrition Institute (IBNA) at Balotesti.
the grants, communicating with and assisting the grantees during sub-projects implementation, and the monitoring and evaluation and socio-economic analysis of research results. It is envisaged that as under ASSP, the CGS Board will continue to have adequate representation of farmers, NGOs, producers’ associations, and private sector representatives.

Until such time that a satisfactory financial management system and staffing, including for tranche payment of grants under the CGS, is established in the MAFRD Financial Department, the MAKIS Project Management Unit will continue to be responsible for the financial management, accounting and auditing aspects of the CGS. MAKIS will support the training of MAFRD staff in financial management aspects so that this function can be reassessed and transferred to the MAFRD by the mid-term review of the MAKIS Project. The Government contribution to CGS will be provided through the MAFRD sectoral funds for agricultural research.

Component 3: Support for Advisory and Information Systems (EUR 8.521 million)

The main objectives of this component are: (a) to improve the capacity of the research, extension and food safety specialists to better serve the needs and improve competitiveness of farmers/ producers and processors in the context of EU accession and (b) to increase access of farmers and processors to knowledge on technologies related to production, quality control, food safety, processing and marketing in order to meet the EU requirements. The project will support two sub-components: (i) the establishment of a Training and Information Center; and (ii) improving effectiveness of advisory services.

Setting up the Training and Information Center (TIC): A Training and Information Center will be set up as a knowledge resource base, accreditation and training center for trainers, extension agents, food safety inspectors and researchers in relevant EU directives, as well as new agricultural technologies. The Training and Information Center (TIC) will be located at the Bucharest Agricultural and Veterinary University and will have linkages with three regional universities at Cluj, Iasi and Timisoara, each of them specializing in different areas of expertise. These Universities were identified by the Government as the best option since they are uniquely qualified. Other individual research institutes are narrowly focused with specific mandates and lack appropriate staff and facilities for undertaking the training required to meet the broad-based training needs under the project. There is no private sector or other alternative source that is in a position to provide training in such broad topics as will be required on the project. There may be individuals who can provide some training but after extensive market search, no other private sector alternative was found. Therefore, it is determined that these Universities are the only institutions with adequate facilities, staff, geographic reach, organization and good reputation that can effectively provide the needed training and remain updated on the latest relevant technologies and information. Also, since the training will be provided in the local language, the work cannot be undertaken outside Romania. Locating the TIC in these Universities is the most sustainable way to ensure that such training will continue after the project ends. It should also be mentioned that these Universities are not under the Ministry of Agriculture, Forests and Rural Development. Effective cost recovery mechanisms (payment of fees) will be explored during the project implementation based on good practices in EU member countries.
The TIC will: (i) gather knowledge on agricultural technologies from within the country and abroad in order to meet both the farmers' needs as well as EU requirements; (ii) develop relevant extension packages and training modules for selected topics for each agro-farming area; (iii) train trainers and providers of agricultural extension and advisory services and provide them accreditation; (iv) train trainers and inspectors within the food safety system and provide them accreditation; (v) train researchers on how to develop research proposals and integrate within the European Research area; and (vi) develop and implement an IT system to serve as a knowledge and learning tool. The system will include a database of EU legislation and requirements regarding agriculture, rural development and food safety, new production and processing technologies, and will be continuously updated.

The project will provide support for: (a) training to be delivered in the Training and Information Center (TIC); (b) technical assistance to strengthen the TIC's capacity; (c) designing and implementing an integrated IT system hosted by the universities to accommodate the TIC.

Improving Effectiveness of the Advisory Services. This sub-component would support the development of the advisory services in two ways: (a) a range of advisory and training activities would be supported using contracted service providers; (b) improved working practices would be introduced into the existing public advisory system.

(a) Contract Extension Activities: The project will carry out information campaigns, training of farmers and producers, studies and surveys using contracted service providers. The PMU will enter into contracts with the service providers. The contracted suppliers are expected to be drawn from the private and public suppliers such as private companies, NGOs, producer associations, staff of agricultural high schools, research institutes and stations, universities and other training and information suppliers. The priorities in contracting the extension activities will be based mainly on analysis of local needs assessments so that these services will be demand-driven and responsive to clients' demands. The CJCA/CLCA will also participate in the project as contracted service providers. All activities would be carefully designed and selected so as not to duplicate ongoing activities and would be in addition to the regular extension program wherever there is a significant unmet demand. All activities would be carefully evaluated as to their effectiveness in extending information and increasing knowledge, particularly in the area of EU regulations and directives, with the aim to provide feedback to help improve the extension methodology and content.

(b) Improving the Existing Public Advisory System: Activities to be undertaken under this sub-component are aimed at: logistical support for ANCA, training the staff of ANCA and of the associated CJCA/CLCA system, upgrading the information flow capacity of the existing advisory system (IT equipment and development of a website), assisting ANCA in developing a program of paid services, particularly for larger commercial farmers, other commercial entities and producer associations in order to ensure future sustainability and to prepare for possible privatization.
Component 4: Project Management Unit (PMU) (EUR 2.061 million)

The project management component will provide for project co-ordination and administration, procurement, financial management, reporting, monitoring and evaluation activities for all components. The MAKIS-PMU will be formed on the basis of the existing ASSP-PMU with staffing reflecting the needs of the MAKIS. Funds will also be provided for hiring short-term consultants on a need basis. Two of the PMU staff will be located in ANCA. The project will provide for purchase of some additional equipment and vehicles, rehabilitation of premises, together with salaries and operating costs over five years.

4. Lessons learned and reflected in the project design

The proposed MAKIS will build on experiences in decentralized, rural development investment projects supported by the Bank and other development agencies in various regions of the world, and on the Bank's experience in agricultural support services projects in Romania and other countries. Some key lessons derived from selected projects and sector summaries include:

- strong Government commitment is an essential condition for development of sustainable rural and agricultural sectors, including efficient research, extension and training programs;
- both public and private sector services should be considered in research and extension system design;
- needs-based extension staff training should focus on training extension workers to encourage farmer organization participation in extension in addition to providing technical information;
- research and extension systems must be adaptable to respond to rapidly changing economic, trade, and sectoral conditions;
- considering technology generation, acquisition, and adoption as elements of a single system promotes synergies between scientists, educators, extension agents, farmers, and industry stakeholders;
- rationalizing existing resources and limiting expansion of facilities is important to developing financially sustainable research systems. Policy and regulatory regimes should be favorable to private sector research and technology spill-ins;
- research planning and priority setting are important, but need to be carried out in ways that ensure local ownership and good quality of such exercises;
- developing monitoring and evaluation systems is important for project success;
- attention to excellence in research quality needs to be enhanced through: needs-based training; competitively awarding research grants based on explicit economic, social and technical criteria; external review of research programs; involvement of universities and a range of other research providers; and linkages with international, regional and national research centers of excellence;
- effective institutional linkages with research system clients requires farmer involvement in determining research agendas and consideration of gender effects in research planning and execution; and
accommodating needs of women and vulnerable groups can be accomplished by involving these groups in setting research agendas and evaluating extension services; sensitizing extension workers to roles of these groups in the farming community; and developing methodologies to effectively reach these farmers.

The project will incorporate these experiences and build on them through a participatory and transparent approach to implementation.

5. Alternatives considered and reasons for rejection

(i) One alternative in assisting the Government to improve its AKIS was to scale up the ongoing Agricultural Support Services Project. This option was however rejected as it was agreed that the focus of ASSP was somewhat limited in comparison to what the proposed project is setting out to achieve. The overall objective of ASSP was to provide immediately needed technology, information and training to private farmers and agro-processors and to improve efficiency, cost effectiveness and client relevance in the management of research and extension. While the project has been rated satisfactory in achieving the objective of providing immediate technology based on farmers' needs, the proposed project moves Romania towards a longer-term goal of membership in the European Union. This requires harmonization of Romania's agricultural policies and institutions to comply with the EU accession requirements. The proposed project seeks to assist Romania with its accession to the EU in 2007 by modernizing the national agricultural research and extension system in light of EU requirements. In this context food safety was a significant issue, which ASSP was not designed to address. It was therefore agreed to prepare an independent project where the focus would be on improving the competitiveness of farmers and agro-processors in the EU accession environment.

(ii) The preparation team debated the idea of undertaking overall deeper reforms of the national AKIS as a next step to ASSP. However, this option was rejected in light of ongoing work by the EU over the past several years. Although some progress has been achieved through EU’s PHARE and SAPARD programs, significant work still remains to be done. The EU is unable to cover all aspects of the food safety, research and extension accession requirements and the Government subsequently requested Bank assistance to fill critical gaps in the implementation of the accession strategy for food safety, research and extension. The proposed project will therefore complement the ongoing work of the EU and undertake investments in particular areas of the food safety, research and extension sub-sectors and not the AKIS sector as a whole.
C. IMPLEMENTATION

1. Institutional and implementation arrangements

The project has selected hybrid implementation arrangements whereby implementation of component activities would be shared between various national Ministries/agencies and a Project Management Unit. The Food Safety Component would be mainly implemented by ANSVSA, which is an independent authority under the Prime Minister and beyond the purview of the MAFRD.

Although implementation functions have been mainstreamed into the MAFRD as much as possible, the Ministry at this stage has inadequate technical expertise, administrative capacity, financial management, and procurement procedures in place to implement the project effectively. In order to get implementation started the PMU will be developed based on the ASSP PMU’s structure. Gradually as capacity, expertise, etc., is built within the appropriate counterpart agencies, implementation functions will be transferred to these counterpart agencies. The capacity constraints regarding the financial management and procurement system will be addressed as following: (a) training in financial management and procurement will be provided to ANSVSA and MAFRD; (b) a project procedures manual will be developed; and (c) project-specific accounting ledgers will be established at all implementing entities.

The PMU will work under the supervision of MAFRD. It will have overall management responsibility for the project. A technical specialist for each component will closely monitor and facilitate implementation by the respective implementing agencies. The Food Safety Component will be implemented by ANSVSA; MAFRD will be responsible for implementing the phyto-sanitary sub-component. For the research component, the Research Institutes will implement the activities related to the laboratories and reform program, while MAFRD will implement the mainstreaming of the CGS grants. The reform program for research will be overseen by an Advisory Board comprising representatives of MAFRD, ASAS, PMU and private sector representatives. In the case of the advisory and information component, the training sub-component establishing a Training and Information Center (TIC) and conducting regular training will be implemented by the PMU who will contract Bucharest University and three regional universities to carry out the work. The advisory component will be implemented by ANCA.

Initially, the PMU will assist and train the ANSVSA staff who will increasingly take over the responsibilities for implementing the activities designed under this sub-component. For producing an integrated report on the overall Project, the ANSVSA will send its reports to PMU, who will prepare a consolidated report for submission to the MoPF and World Bank.

Procurement. Procurement activities for the Component 1 (Food Safety Component) will be primarily carried out by ANSVSA. However, for the Animal Welfare and Phyto-sanitary Laboratories activities of Component 1, as well as for all other project components, procurement activities would be carried out by the Project Management Unit.
Financial Management. The existing Financial Management system of the ASSP PMU will be used for the MAKIS Project. The existing accounting software will be customized by the software provider to suit the requirements of the MAKIS Project. It is envisaged that the financial arrangements for the whole project will be mainstreamed, relying as much as possible on the existing systems in the relevant entities. The aim is to build on those systems and facilitate a strengthened financial management capacity of these entities.

Flow of Funds. The Bank loan will be disbursed by direct payments to the two implementing agencies. The local contribution, either from the Government, or the beneficiaries’ own contributions, will be made available via Treasury project accounts, or in-kind contributions if applicable. Counterpart Government contributions payments will be made from separate Treasury project accounts. The counterpart Government contribution for the CGS will be made from the MAFRD sectoral research funds. Beneficiaries’ contributions represent payments made directly by the beneficiaries for the purposes of the project and in-kind contributions. A detailed flow of funds for each component and sub-components is described in Annex 7.

2. Monitoring and evaluation of outcomes/results

A well-designed monitoring and evaluation system will be critical for ensuring the project’s timely and successful implementation, and enhancing its impact by a systematic analysis of lessons learned and their effective dissemination. Project monitoring and evaluation would be the responsibility of the PMU. The Project Management Unit has developed performance indicators based on Annex 3. The PMU would annually monitor and evaluate project performance through conducting beneficiary surveys. The results of M&E activities will be fed back into the implementation process as improved practices.

The PMU will design a simple Management Information Systems for M&E, reporting formats for each component, including targeted annual performance objectives and monitoring indicators using Annex 3 details as the basis. Quarterly reports will cover progress in physical implementation, the use of project funds and project impact. The Quarterly reports will be consolidated by the PMU into half-yearly progress reports to be submitted to the Bank within two months of the end of each six-month reporting period. These half-yearly progress reports will also include an implementation plan and work program for the next six months following the reporting period. The format of reports will be agreed with the Bank.

A mid-term review will be carried out to assess overall progress. Lessons learned, with recommendations for any improvements, would be used in restructuring the project, if necessary.

3. Sustainability

The Republic of Romania has expressed its full commitment to meet the EU accession requirements and to address the challenges faced by the AKIS sub-sectors and agricultural sector as a whole in achieving this. In this context, the Ministry’s “Agricultural and Rural Development Strategy for Accession to the European Union” identifies the need to revitalize and restructure the NARS, including agricultural research, extension and education to achieve these goals. A Government-endorsed study: “Revitalizing the Romania AKIS; A Vision for Action” has been developed to address the urgent need for substantive AKIS reforms.
Some progress has been achieved over the past few years in instituting appropriate institutional and organizational changes in food safety, agricultural research, extension and education, agricultural policies, and the regulatory framework, including:

Setting-up of the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA): The Government Decision number 308 establishing the final structure and functions of the authority was published in the Official Journal 243/19.03.2004, and the law approving the Ordinance establishing ANSVSA is under consideration by the Parliament. The Government has made ANSVSA an independent authority under the Prime Minister and has allocated necessary budgetary resources for its operations and maintenance. The EU is also providing considerable financial and technical support for the establishment of the authority. Several activities/services of the Authority will be provided on a charge-back basis, which will help contribute to the Authority’s sustainability.

Research: The Law 290/2002 together with the Law 147/2004 created the needed legal framework for restructuring the AKIS. As a result, the research network was considerably reduced. In addition, Romania fully accepted the community acquis in “Science and Research” (Chapter 11) and closed negotiations on this chapter. The MAFRD made a commitment that the research institutes to be reformed under the project would be transformed into “National Research Institutes.” This will ensure their long-term sustainability and support from the Government for research operating and (basic) salary costs. Also, the two National Reference Laboratories to be established with project support will provide services on a charge-back basis; this will help ensure their sustainability.

Mainstreaming of Competitive Grant Scheme (CGS): The MAFRD has confirmed that the CGS would be mainstreamed within the Ministry and that the Ministry would channel a significant portion of its own sectoral research funds (some EUR 5.5 million equivalent) through the CGS, thereby matching IBRD funds under MAKIS allocated to the CGS. The Government has also agreed to continue the CGS and increase its allocations once the IBRD-funded project is completed.

Extra-budgetary support for ANCA: The Government has made an amendment to the Government Decision setting up ANCA that allows ANCA to have extra-budgetary income and expenditures and to use these funds for their own needs.
4. Critical risks and possible controversial aspects

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation Measure</th>
<th>Risk Rating</th>
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<tbody>
<tr>
<td>To Project Development Objectives</td>
<td>Risk was considerably reduced by addressing such concerns during project preparation. The project will focus on only five priority national research institutes that will also receive core funding from the Government.</td>
<td>S</td>
</tr>
<tr>
<td>Resistance to change coming from inside the current research and extension systems – by those who might feel threatened by the proposed reformed AKIS for fear of loss of job security, or concerns that the reform process might destabilize and jeopardize agricultural research activities;</td>
<td>Government has agreed to transform the selected priority research institutes into “national institutes.” They will receive budgetary allocations from MAFRD. Also, the institutes will be able to compete for funds from national and international research programs.</td>
<td>M</td>
</tr>
<tr>
<td>Insufficient Government support for the priority national research institutes.</td>
<td></td>
<td>M</td>
</tr>
</tbody>
</table>

| To Component Results                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Adequate counterpart funds are not allocated in a timely fashion                     | Advance assurance from Government and joint reviews                                                                                                                                                            | N           |
| Government does not provide sufficient core funding to priority research institutes   | Advance assurance from Government and joint reviews                                                                                                                                                            | M           |
| Overall Risk Rating                                                                  |                                                                                                                                                                                                                      | M           |
| Risk Rating: H = High; S = Substantial; M = Modest; N = Negligible                    |                                                                                                                                                                                                                      |             |

5. Loan/credit conditions and covenants

Disbursement condition: Disbursement of project funds to the five priority research institutes will be conditional upon the institutes being transformed into a national institute (if not already done) in accordance with the provisions of Law 324 of July 2003; approval of a Reform Action and Implementation Plan and budget in respect of such research institute by MAFRD, the governing board of the research institute concerned, and the Bank, and confirmation that the reform Action and Implementation Plan is being implemented to the satisfaction of the MAFRD and Bank and in accordance with the approved work program, timetable and budget.

Financial Management Condition: None.

Financial Management Covenants: The project implementing entities will each maintain a financial management system acceptable to the Bank. The project's financial statements, withdrawal applications and Special Account will be audited by independent auditors acceptable
to the Bank and on terms of reference acceptable to the Bank. The annual audited statements and audit reports will be provided to the Bank within six months of the end of each fiscal year.

D. APPRAISAL SUMMARY

1. Economic and financial analyses

A preliminary economic and financial analysis of the MAKIS project has been completed. This includes: (i) a brief review of returns to past investments in agricultural research and extension projects globally; (ii) an estimation of the potential Internal Rate of Return (IRR) for the proposed investments based on experiences with the ongoing Agricultural Support Service Project (ASSP) in Romania, (iii) a comparison of research expenditures in Romania relative to EU and developing countries, and (iv) a fiscal analysis. Following World Bank guidelines a full economic analysis of the whole project was not attempted, since a large share of resources in the project is allocated to institutional development.

The evaluation of sub-projects under the competitive grant scheme (CGS) funded by the ongoing ASSP demonstrates the potential economic benefits of investments in the national research and extension system to be funded by the MAKIS project. The economic and financial analysis was based on data from the M&E database implemented under the ASSP, preliminary data from sub-project progress reports, assumptions based on the technical expertise of PMU staff, and interviews with sub-project lead scientists. Out of the total of 125 adaptive research and extension projects, 20 were selected for evaluation. The aggregate IRR for the 20 projects amounts to 134 percent and the benefit-cost ratio is estimated at 8.4. These values are comparable with research and extension projects in other countries. This preliminary analysis indicates that the investments under MAKIS will be economically and financially justified.

An analysis of total costs under the MAKIS project indicates that a productivity gain of only 0.06 percent of the Romania AgGDP would lead to an IRR of 12 percent. The analysis includes the annual costs of the project, including institutional development, and assumes a time lag for initiation of benefits of 4 years with maximum benefits (i.e., 0.06% of AgGDP) after 8 years after project start.

However, the investments will also have significant fiscal impacts. The fiscal analysis aims at assessing the likelihood that sustainable local sources of funds will be available at the end of the project to take over from funds provided under the project. The current public expenditures for food safety, advisory services, and research are compared with the projected demands on public expenditures for sustaining project activities after the completion of MAKIS. The fiscal analysis indicates that annual public expenditures would have to increase in real terms by 74 percent in 2009 and beyond after the end of the project. This increase would correspond to an increased expenditure of EUR 9.55 million per year, which is about 0.09 percent of the total Government budget in 2004 (public agricultural research expenditures are projected to increase by 115 percent or EUR 6.4 million annually, which is about 0.5 percent of the budget of the MAFRD in 2004). Although these projections mean a significant increase in GOR commitment to food safety, research and extension, total public expenditures will still be low in comparison to

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3 Due to data constraints, the budget of the MAFRD in this calculation includes only the expenses for investments in agriculture. Operating costs are not included.
international levels. For example, public expenditures for agricultural research as a percent of AgGDP would increase from 0.10 percent in 2002, to 0.22 percent of AgGDP in 2010, which remains significantly below the global averages of 2.6 percent for industrialized countries and 0.6 percent for developing countries.

2. Technical

At the Government’s request, the Project will undertake investments in particular areas of food safety, research and extension sub-sectors to address critical needs and gaps that will facilitate reforms of the sub-sectors in the context of EU accession strategy. The project will complement the ongoing work financed by the EU mainly under its PHARE and SAPARD programs. Significant progress has been achieved over the past few years in instituting appropriate institutional and organizational changes in food safety, agricultural research, extension and education, agricultural policies and the regulatory framework. The project will assist not only in establishing an EU compliant system but also with developing national institutional capacity for implementing the EU requirements.

3. Fiduciary

Financial Management

The financial management arrangements of the project are acceptable to the Bank.

The Borrower is in compliance with its audit covenants in respect of the other Bank – financed projects. The latest ASSP audited financial statements have been received on June 30, 2004, with a clean audit opinion.

Draft formats of the FMRs and financial reports have been developed and are attached to the minutes of negotiations.

The first Country Financial Accountability Assessment (CFAA) for Romania was finalized in December 2003 and concluded that the overall fiduciary risk associated with the public financial management and financial accountability arrangements of the Romanian Government administration is considered to be moderate, with the systems for accounting, financial reporting and internal control representing the areas with the higher risks and budgeting, cash management and external audit and Parliamentary oversight representing the lower risks.

The implications of the CFAA for the project are addressed by the following actions:

- A detailed review of the systems was performed for each implementing entity.
- Each implementing entity has a distinct project-specific accounting ledger.
- Project accounting staff have been identified for each implementing entity.
- The format of the FMRs and financial reports agreed with both implementing entities.
- MAKIS Project financial statements will be audited by an independent auditor annually.
Procurement

An assessment of the capacity of the Implementing Agencies (MAFRD and ANSVSA) to implement procurement actions for the project has been carried out. The assessment reviewed the organizational structure for implementing the project and the interaction between the project’s staff responsible for procurement and the Ministry’s relevant central unit for administration and finance.

Most of the issues/risks concerning the procurement component for implementation of the project have been identified and include:

1. High-risk procurement environment.
2. Frequent changes of the staff performing procurement activities under the current ASSP.
3. No experience of ANSVSA staff with WB procurement.

The corrective measures which have been agreed are:

1. The Project will follow WB Procurement Guidelines
2. The procurement staff in the existing ASSP PMU should receive training based on regional workshops and seminars, and on ILO (Turin) regular WB procurement training sessions. For the initial period of project implementation the procurement staff will be supported by a Procurement Consultant.
3. ANSVA appointed an experienced person responsible for procurement activities under the project.
4. A procurement consultant whose qualifications, experience and terms of reference shall be satisfactory to the Bank will be selected for the initial years of the Project.

The overall project risk for procurement is high.

4. Social

A Social Assessment was done primarily for the advisory component in order to establish a baseline of farmers’ knowledge, assess the need for information by the target population, determine the most appropriate information channels, characterize the best strategies for persuading small and medium scale agricultural producers to comply with EU regulations and draw lessons for the on-going consulting activities of ANCA and other bodies such as NGOs.

Several consultations were undertaken with a broad spectrum of stakeholders, including small- and family-sized farms, medium- and large-scale farms, agro-processors, livestock, dairy and poultry farms, producer groups, farmer associations and NGOs. As women form a large part of the farming community, special attention was paid to ensure their involvement. A questionnaire was developed to determine the information needs of the different potential project beneficiaries. The questionnaire was analyzed and a detailed working paper is being finalized on the findings. The main findings are that information on EU requirements for food safety; agro-processing; environmentally-friendly agricultural practices; animal health, welfare and nutrition; and farming technologies were lacking and the demand for information and technology was high in all groups.
of farmers and agro-processors. The assessment indicated that the larger groups could afford to pay for these services and were knowledgeable on how and where to obtain the needed information. However, the need for technology and information was found to be most critical for the small family- and medium-size farms and agro-processors in order for them to benefit from Romania's EU accession. Also, the assessment clearly indicated that it was necessary for the proposed project to make special efforts to disseminate technology and information to women groups and include them in training programs.

The data collected under the baseline survey will be used as the benchmark against which project progress and impact will be measured.

5. Environment

The project is rated an environmental category B. In accordance with the Bank's Operational Policy 4.0 requirements, an environmental assessment of the impact of the Project was prepared by the MAFRD. The assessment identified the potential environmental impacts of the civil works and the operation of the laboratories and other facilities concerned. An environmental management plan (EMP) was developed consisting of a set of mitigation, monitoring, and institutional measures to be taken during implementation to eliminate any adverse environmental and social and health impacts, offset them, or reduce them to acceptable levels. The EA and EMP were cleared by the Bank and disclosed within the country on July 5, 2004. A summary of the EA and environmental mitigating measures are provided in Annex 10.

6. Safeguard policies

<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>
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<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
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<td>Pest Management (OP 4.09)</td>
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<td>Cultural Property (OPN 11.03, being revised as OP 4.11)</td>
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<td>Involuntary Resettlement (OP/BP 4.12)</td>
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<td>Indigenous Peoples (OD 4.20, being revised as OP 4.10)</td>
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<td>Forests (OP/BP 4.36)</td>
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<td>Safety of Dams (OP/BP 4.37)</td>
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<tr>
<td>Projects in Disputed Areas (OP/BP/GP 7.60)</td>
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<td>[X]</td>
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<tr>
<td>Projects on International Waterways (OP/BP/GP 7.50)</td>
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7. Policy Exceptions and Readiness

Under component 1 “Strengthening the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and the Phyto-sanitary Units”, the Government would contract the Pasteur Institute to carry out a program for Animal Welfare in livestock production to demonstrate the EU requirements. The Pasteur Institute, although now a privatized institute, retains the mandate to support Romanian farmers to improve their livestock and poultry production. After considering all the alternatives, the Bank cleared the contracting of the Pasteur Institute on a single source selection basis.
Under component 3 "Support for Advisory and Information Systems", the establishment of the Training and information Center (TIC) would be based on involvement of four Universities of Agriculture and Veterinary Science (Bucharest, Timisoara, Iasi, Cluj). As this is a Government owned entity the Bank confirmed, after the necessary internal consultations, that exception pursuant to para 1C) of the Procurement Guidelines can be made.
Annex 1: Country and Sector or Program Background

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

Romania is scheduled for EU accession in 2007. Towards this, the Republic of Romania is working to create a competitive and efficient agricultural sector and bring it in compliance with EU requirements. Agriculture plays a dominant role in the economy of Romania. The sector employs 44% of the total labor force and approximately 70% (4.8 million people) of the rural labor force. The rural labor force engaged in agriculture constitutes 72% of total agricultural labor in all the EU member countries. From a total area of 23.8 million ha, utilized agricultural area represents 14.8 million ha or 62% of the total. This is one of the highest shares of cultivated land in all EU member states. Despite its size, the sector has failed to live up to its potential and accounted for only 13% of GDP in 2000 (in 1990, the share of GDP was 23%). The low productivity of land is manifested in generally low yields, which achieve at most 50% of the corresponding EU yields.

Agricultural production in Romania has become increasingly inefficient and fragmented as there are over 4.5 million agricultural holdings varying from less than 1 ha to 2,000 ha in size. Currently some 23,000 agricultural holdings are farming 40% of the arable land area. Romanian agriculture is dominated by the individual or household farm that constitutes 70% of the farming community and produces 87% of agricultural output. More recently, large farming enterprises are being established to take advantage of the new opportunities especially in the fertile plains. This is causing greater income inequality and social exclusion as small farms are surrounded by larger, more productive farms.

Food Safety. Food quality control at the producer and processor level is a priority issue for EU accession. In accordance with EU requirements, an independent National Authority for Sanitary, Veterinary and Food Safety is established under the authority of the Prime Minister. As stipulated in the White Paper on Food Safety prepared by the Commission of the European Communities in January 2002, the principal objective of the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) would be to “contribute to a high level of consumer health protection in the area of food safety, through which consumer confidence could be restored and maintained”. At this stage Romania’s quality standards do not match EU standards and the Romanian food industry is generally not prepared for the new competitive environment associated with EU accession. Considerable progress has been achieved in harmonizing the local standards and regulations with the EU, yet much remains to be done. Romanian producers are unaware of the crucial importance of meeting EU quality standards for future access to European markets.

Agricultural Knowledge and Information Systems. The creation of a competitive agricultural sector that would allow Romania to function effectively in the new EU environment is largely dependent on the establishment of an efficient national agricultural knowledge and information systems (AKIS). Currently the Romanian AKIS is ineffective in assisting farmers and agro-food industry to raise their competitiveness. The research, extension and education sub-sectors are not yet positioned to assist Romania prepare or take advantage of accession to the EU. Ensuring
high quality agricultural services is critical to improving the competitiveness and sustainability of the agricultural and rural sectors and to facilitate compliance with the obligations of membership laid out in the EU *acquis communautaire* ("body of the laws of the European Union").

The EU places particular emphasis on the maintenance of "land in good agricultural condition" and for farmers to be eligible for direct single farm payments, they would be required to conserve their land, maintain the quality of the agricultural landscape, and comply with statutory requirements regarding public, animal and plant health, occupational safety, environment and animal welfare. In order to assist farmers to comply (as a minimum) with the statutory management requirements for maintaining land in good agricultural condition, Member States would be required to set up a system for advising farmers on land and farm management. All farmers receiving over Euro 15,000 of direct payments per year or with a turnover of over Euro 100,000 would be obliged to participate in the farm advisory system within a period of 5 years (Member States would need to have a minimum 15% increase in participation per year). Towards this, the Treaty of Accession for the ten new member states of the EU provides support for the provision of farm advisory and extension services between 2004-2006 to the potential new members. The rationale for the inclusion of this measure is the recognized need to strengthen farm advisory and extension services in the future Member States, particularly in relation to the effective implementation of the CAP, introduction of good farming practices and farm business / investment planning.

The Republic of Romania has taken several steps to improve the national research, extension and education system and the *Strategy for the Development of Agriculture, Food Industry and Forestry for the medium- and long-term (2001-2005 and 2005-2010)* elaborates the objectives of the agricultural sector: "productivity and quality increases of agro-food products, the modernization and the improvement of food processing and marketing chains as well as increase of agricultural producers' income and the sustainable development of rural areas, in compliance with environmental protection requirements, in order to create a competitive sector which should meet the common market requirements". A review of the current status of the three sub-sectors reveals that much work remains to done to make the system more commercially oriented and competitive in the context of EU membership.

**Current Status of Agricultural Research:** Research institutes are being actively consolidated – the total number of public research establishments has already been reduced by 20%. However, due to budgetary constraints, public sector funding from the Ministry of Education and Research for agricultural research declined 85% from USD 30 million in 1990 to USD 4.3 million in 2002. For a sector comprising 13% of GDP, this seems grossly inadequate. In addition, currently, all public research funding is allocated on a block basis with inadequate funding for salaries, investments in infrastructure and the conduct of long-term research programs. This overall decline in public sector funding of agricultural research has had a number of negative effects: decline in the number of researchers by 53% over the period 1990 to 2002 as researchers retired or sought new employment; failure to attract young scientists and graduates; weak research infrastructure; loss of mobility of researchers; reduced access to external information; and a precipitous decline in useful recommendations for innovations in agricultural and livestock production.
To survive, research establishments resorted to commercialization and by 2001 income from this source represented 46% of their total income. However, the opportunity for research establishments to benefit from such commercial activity varies tremendously and the efficiency of using highly qualified scientists as production managers is questionable. The nature of research at some establishments has resulted in them having limited possibilities for commercial activity such as seed production of new varieties. Funding of "public good" research has also suffered seriously. Overall, despite the best efforts of the Government, researchers and managers, considerable additional work has to be done to improve the ability of the research system to undertake the research required to improve the competitiveness and sustainability of the Romanian agricultural and rural sectors and to meet EU accession challenges. The accession to the EU (to take place in 2007) will implicitly result in the restructuring of the present system and it will represent an important opportunity and challenge for the Romanian AKIS.

Extension: From 1994 to 1997, Romania's public extension efforts to private farmers was undertaken by the then Ministry of Agriculture and Food (MAF) and, at county level, by the Directorates Generals for Agriculture and Food Industry (DGAIAs). A more independent extension capacity was established in 1998 with support from the European Union. The Directorate for Extension, Consulting and Vocational Education was transformed into a national extension agency (ANCA -the National Agency for Agricultural Consulting). The extension activities at the country level are assigned among 42 Judet extension offices with local extension offices in communes. In 2000, in an attempt to make the extension service more responsive to local needs, the operation and control of the Judet level extension staff were decentralized to the Judet administrations. Although potentially beneficial, the decentralization introduced a number of additional problems including the use of extension staff by Judet administration to undertake non-extension activities. This compromised the continued professional development of the extension personnel. Also, increased management effort to ensure co-ordination of extension activities unmotivated staff as they lost a sense of independence. The decentralization left the local extension group with inadequate capacity to develop national strategies and provide independent analysis to the Ministry of Agriculture, Forests, and Rural Development. Also, under the new system, farmers found it difficult to distinguish the functions of Judet level extension staff and at times perceived them as another arm of Judet level Government. There was limited integration of extension activities with agricultural research and education, which hindered knowledge and technology transfer. Some issues facing the extension sub-sector include: too-far divorced from the research sector that is generating the new knowledge that the extension service should be disseminating; lacks clear targets to tackle the problems of each sector of the Romanian farm economy; impact of the extension service is largely unmonitored and unevaluated and therefore the efficacy of the allocation and management of operational costs cannot be judged; continued professional development of extension staff has been hindered which is especially problematic as the skill base/experience of many extension personnel inadequately equips them for their tasks; staff have left the service or become unmotivated; the extension service does not have national coverage of commune; an over-emphasis is placed upon disseminating knowledge through formal publications which are impenetrable to a large segment of the farming population. There is insufficient direct contact between farmers and extension personnel and in consequence farmers have little confidence in the extension service.
Education: The agricultural education system in Romania has had difficulties in adjusting to the demands of a market-based agricultural economy. Curricula are still out-dated with a lack of emphasis on farm business management, marketing, economics and development of entrepreneurial skills, particularly in pre-university educational institutions. This lack is particularly significant in relation to the requirements for managing small- to medium-sized family farms. Teaching methods are largely lecture / class-based and there is a lack of use of participatory training techniques.

To meet the above challenges, the Republic of Romania has expressed its full commitment to meet the EU accession requirements and to address the challenges faced by the AKIS sub-sectors and the agricultural sector as a whole in achieving this. In this context, the Ministry's "Agricultural and Rural Development Strategy for Accession to the European Union" identifies the need to revitalize and restructure the AKIS, including agricultural research, extension and education to achieve this goal. A Government-endorsed study: "Revitalizing the Romania AKIS; A Vision for Action" has been developed to address the urgent need for substantive AKIS reforms.

In order to meet the target EU accession date of January 2007, the Republic of Romania is working actively with the EU, through its PHARE and SAPARD programs, as well as with a number of EU countries in meeting EU accession requirements in the areas of food safety, extension and research. Significant progress has been achieved over the past few years in instituting appropriate institutional and organizational changes in food safety, agricultural research, extension and education, agricultural policies, and regulatory framework. The aim is not only to establish an EU-compliant system but also to develop national institutional capacity for implementing the new requirements. Regarding Food Safety, the Government has established the National Authority for Sanitary, Veterinary and Food Safety. In the area of research, the Law 290/2002 together with the Government Ordinance 78/2003 created the needed legal framework for restructuring the AKIS. The research network was considerably reduced. In addition, Romania fully accepted the community acquis in “Science and Research” (Chapter 11) and closed negotiations on this. Regarding agricultural education, the curricula were extended to include new courses demanded by the market, the teaching/learning conditions were improved and the links with extension and research were tightened. The proposed project has been developed to fill critical gaps in the country’s efforts in food safety and AKIS compliance, in the context of EU accession.
### Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

**ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>ID#</th>
<th>US$ Million</th>
<th>Institution</th>
<th>Approval Date/ Status</th>
<th>IP/DO Rating (For Bank projects only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation Rehabilitation and Reform Project</td>
<td>P043881</td>
<td>80</td>
<td>IBRD</td>
<td>07/31/2003</td>
<td>S/S</td>
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<tr>
<td>Rural Development in Romania</td>
<td>P057960</td>
<td>40</td>
<td>IBRD</td>
<td>03/19/2002</td>
<td>U/S</td>
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<tr>
<td>Rural Finance Project</td>
<td>P056891</td>
<td>80</td>
<td>IBRD</td>
<td>03/29/2001</td>
<td>U/S</td>
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<td>Agricultural Pollution Control Project</td>
<td>P066065</td>
<td>5.15</td>
<td>GEF</td>
<td>12/13/2002</td>
<td>S/S</td>
</tr>
<tr>
<td>2. EU-PHARE: Reinforcement of agri-food quality control systems</td>
<td>EuropeAid/112 650/D/SV/RO EUR Million 1.36</td>
<td>EU-PHARE</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Reinforcement of phytosanitary administration</td>
<td>EuropeAid/111 189/D/SV/RO</td>
<td>EU-PHARE</td>
<td>Closed 2000</td>
<td></td>
<td></td>
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<tr>
<td>Reinforcement of the veterinary administration</td>
<td>EuropeAid/111 203/D/SV/RO</td>
<td>EU-PHARE</td>
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<td></td>
<td></td>
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<tr>
<td>Harmonization of Food Standards Support to the Enterprises in the Food Industry</td>
<td>EuropeAid/111 276/D/SV/RO</td>
<td>1.99</td>
<td>EU-PHARE</td>
<td>Closed</td>
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<tr>
<td>Strengthening of the Phytosanitary Inspection at the Place of Production Bucharest Romania</td>
<td>EuropeAid/116 030/D/S/RO</td>
<td></td>
<td>EU-PHARE</td>
<td>Closed 2003</td>
<td></td>
</tr>
<tr>
<td>Strengthening of the Phytosanitary Inspection at the Future EU Border</td>
<td>EuropeAid/116 031/D/S/RO</td>
<td>0.24</td>
<td>EU-PHARE</td>
<td>Closed 2003</td>
<td></td>
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<tr>
<td>Equipment and Development of Sanitary Veterinary Laboratories</td>
<td>EuropeAid/113 423/D/S/RO</td>
<td></td>
<td>EU-PHARE</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Supply of Laboratory Equipment for Food Quality Control</td>
<td>EuropeAid/113 541/D/S/RO</td>
<td></td>
<td>EU-PHARE</td>
<td>Closed 2002</td>
<td></td>
</tr>
<tr>
<td>Training for Agricultural and Rural Policy at national and regional level</td>
<td>EurAid/113651/ D/SV/RO</td>
<td>1.1</td>
<td>EU-PHARE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Assistance to Strengthen the Phytosanitary Administration Capacity in order to Adopt and</td>
<td>EuropeAid/115 603/D/SV/RO</td>
<td>1.1</td>
<td>EU-PHARE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Name</td>
<td>ID#</td>
<td>US$ Million</td>
<td>Institution</td>
<td>Approval Date/ Status</td>
<td>IP/DO Rating (For Bank projects only)</td>
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</tr>
<tr>
<td>Implement the <em>Acquis Communautaire</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training for agricultural and rural policy at national and regional level</td>
<td>EurAid/113651/D/SV/RO</td>
<td>1.1</td>
<td>EU-PHARE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Border Control of Livestock Diseases in Eastern and Southern Europe (on regional basis, with Albania, Bosnia-Herzegovina, Croatia, Bulgaria)</td>
<td></td>
<td>US$ Million</td>
<td>FAO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy for Agriculture and Rural Development</td>
<td>TCP/ROM/0167</td>
<td>0.37</td>
<td>FAO</td>
<td>2002/2003</td>
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### 1. Results Framework

<table>
<thead>
<tr>
<th>PDO</th>
<th>Outcome Indicators</th>
<th>Use of Outcome Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>The overall objective of the project is to assist the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment.</td>
<td>Increased adoption of improved farm practices, marketing, post-harvest and food safety technologies compatible with EU standards. Improved agricultural productivity.</td>
<td>Measure success of capacity building in ANSVSA and identify other steps needed to monitor and manage food safety procedures. Determine whether public information programs have achieved adequate coverage. Determine whether technologies promoted by research meet real needs of farmers and producers, and whether training and advisory systems are reaching intended clients. Determine whether technologies and food safety provisions are resulting in products competitive on world market.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intermediate Results</th>
<th>Results Indicators for Each Component</th>
<th>Use of Results Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: ANSVSA and Phyto-sanitary units that are better able to implement the new food safety regulations adopted by Romania in compliance with EU accession requirements, as well as to provide the necessary control and verification of fresh and processed products to enable farmers, agro-industry and food processors to supply local and international markets.</td>
<td>Component 1: Functional network of national reference and regional laboratories and BIPs established within a strengthened ANSVSA to monitor food safety indicators and build consumer confidence, with reduced risk of breakdown in food safety</td>
<td>Component 1: Use to ensure no breakdown in food safety, to monitor and enforce food safety and to maintain consumer confidence. Flag any risks of failure and need to take corrective action.</td>
</tr>
<tr>
<td>Component 2A: Appropriate technical and economic recommendations available to NARS clients in the agri-food sector to help them adjust to the EU regulatory and market environment.</td>
<td>Component 2A: Five Research Institutes reformed, development of coordinated and cost effective system for (i) field crops research; (ii) soils research; (iii) biotechnology research, virus-</td>
<td>Component 2A: Failure to reform would lead to inability to achieve competitiveness with other European producers and agro-processors.</td>
</tr>
</tbody>
</table>

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29
<table>
<thead>
<tr>
<th>PDO</th>
<th>Outcome Indicators</th>
<th>Use of Outcome Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 2B:</td>
<td>Laboratory capacity to service key EU regulatory areas fully functional.</td>
<td>Component 2B:</td>
</tr>
<tr>
<td>Component 2C:</td>
<td>Research programs respond to priority needs of producers and agro-processors and strengthened private sector role in agricultural research and development.</td>
<td>Component 2C:</td>
</tr>
<tr>
<td>Component 3A:</td>
<td>Continued professional development of the research, extension and food safety personnel, and information on EU regulations readily available to all producers and agro-processors.</td>
<td>Component 3A:</td>
</tr>
<tr>
<td>Component 3B:</td>
<td>Improved effectiveness of advisory services in assisting farmers and agro-industry to raise their competitiveness, by performing sustainable, efficient, and environment friendly agriculture, fully compliant with EU requirements.</td>
<td>Component 3B:</td>
</tr>
<tr>
<td>Component 4:</td>
<td>Project Administration is satisfactory.</td>
<td></td>
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# Arrangements for results monitoring (all figures accumulative)

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Target Values</th>
<th>Data Collection and Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>YR1</td>
</tr>
<tr>
<td>Increased adoption of improved farm production, marketing and post-harvest technologies compatible with EU standards.</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Increased agricultural productivity</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Results Indicators for Each Component</td>
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<td></td>
</tr>
<tr>
<td>Outcome Indicators</td>
<td>Baseline</td>
<td>YR1</td>
</tr>
<tr>
<td>--------------------</td>
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</tr>
<tr>
<td><strong>Component 1:</strong> Functional network:</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>– ANSVSA’s National Reference Laboratories and Regional Laboratories;</td>
<td>NRL</td>
<td>NRL</td>
</tr>
<tr>
<td>– BIPs to monitor food quality and movement of animals;</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>– Phytosanitary National Reference and Regional Laboratories;</td>
<td>-</td>
<td>1 NR</td>
</tr>
<tr>
<td><strong>Component 2A:</strong> Number of Research Institutes reformed, development of coordinated and cost effective system for (i) Field Crops Research; (ii) soils research; (iii)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Outcome Indicators</td>
<td>Baseline</td>
<td>YR1</td>
</tr>
<tr>
<td>--------------------</td>
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</tr>
<tr>
<td>development of biotechnology and virus-free grapevine planting material; (iv) animal production systems.</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Component 2B: Laboratories able to carry out the required analyses and meeting demand for soils (nitrates &amp; sludge directives) and GMO testing.</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Component 2C: Development of technologies compatible with EU standards:</td>
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<td>8</td>
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<tr>
<td>Baseline</td>
<td>YR1</td>
<td>YR3</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>Frequency and Reports</td>
<td>30</td>
<td>30</td>
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<tr>
<td>Data Collection and Reporting Responsibility for Data Collection</td>
<td>TIC reporting</td>
<td>TIC six-monthly reports</td>
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<tr>
<td>Outcome Indicators</td>
<td>Component 3A: Functional training center able to train following per year:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- trainers trained for ANSVSA, ANCA, CIL, and Information Center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Extension staff trained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Food safety inspectors trained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Agro-processors and private sector trained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Researchers trained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Cost recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component 3B: Number of farmers</td>
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</tr>
<tr>
<td></td>
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</tbody>
</table>

**Note:** The table and text are not fully legible due to the quality of the image.
<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Baseline</th>
<th>YR1</th>
<th>YR2</th>
<th>YR3</th>
<th>YR4</th>
<th>YR5</th>
<th>YR6</th>
<th>Frequency and Reports</th>
<th>Data Collection Instruments</th>
<th>Responsibility for Data Collection</th>
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<td></td>
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<td></td>
<td>ANCA and PMU reports</td>
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<tr>
<td>receiving information/training regarding EU accession</td>
<td>-</td>
<td>3000</td>
<td>9000</td>
<td>15,000</td>
<td>21,000</td>
<td>27,000</td>
<td>33,000</td>
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<tr>
<td>• Number of multi media information campaigns</td>
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<td>1</td>
<td>2</td>
<td>2</td>
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<td></td>
<td>Initially six-monthly</td>
<td>Bank supervision missions</td>
<td>Bank Task Team</td>
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<tr>
<td>Component 4: Bank supervision ratings</td>
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<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
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</tr>
</tbody>
</table>

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Annex 4: Detailed Project Description

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

Project Development Objective and Summary Project Description

The overall objective of the project is to assist the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment through:

(i) better implementation of measures for inspection control, risk management and communication in food safety matters;
(ii) strengthened capacity of the national agricultural research system to provide agricultural knowledge, skills, and information based on the needs of the agri-food sub-sector in line with EU requirements;
(iii) improved capacity of research, extension, and food safety specialists to better serve farmers and other clients in agro-processing and marketing in the context of the EU;
(iv) increased access of farmers and processors to knowledge of technologies related to production, quality control, food safety, processing and marketing in order to meet EU requirements.

The project will comprise four components to be implemented over five years. These include: (i) Support for the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and Phyto-sanitary Units to implement the new food safety legislation; (ii) Assistance for Institutional Reform and Strengthening Capacity at five core public Research Institutes and for the implementation of Priority Research Programs to improve the competitiveness of Romanian agriculture and to comply with EU regulations; (iii) Support for an Advisory and Information Systems to provide and facilitate access to relevant agriculture information and technologies; and (iv) a Project Management Unit.

The project components are briefly described below, while the technical details of each component, including the implementation plan, are in the project files and available upon request. A list of all working papers on file is provided in Annex 12.

Component 1: Strengthening the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and the Phyto-Sanitary Units (EUR 11.379 million)

Objective: The objective of the project support will be to strengthen the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and Phyto-sanitary units so that they are better able to (i) implement the new food safety regulations adopted by Romania in compliance with EU accession requirements; and (ii) provide the necessary control and verification of fresh and processed products to enable farmers, agro-industry and food processors to supply local and international markets. The project support for
the implementation of food safety regulations will complement that being provided by the EU and bilateral donors. The following activities will be financed:

**Institutional Capacity Building:** In order to ensure an effective risk assessment and risk management, the project would strengthen ANSVSA’s communications system with support for information technology and training. This would facilitate the flow of information between the center, judets and circumscriptions, as well as with other Romanian institutions concerned with food safety (e.g. Ministry of Public Health, Ministry of Agriculture, Forests and Rural Development and National Agency for Consumer Protection), the EU Food Safety Authority, other Member States and the EU Commission. In this context, the Unit for Risk Analysis and Risk Assessment would be the Contact Point for Communication with international bodies via Rapid Alert System of Food and Feed and TRACES.

The project would also assist ANSVSA to develop an effective public awareness system, including the establishment of a press office. With regard to meeting the EU requirement of separating risk assessment from risk management, the organization chart of ANSVSA (see Attachment 1) reflects the main principles in the EU Food Law. As a consequence it was decided to establish, inside ANSVSA, a special “Unit of Risk Analysis and Risk Assessment” directly subordinated to the President of ANSVSA. This unit will comprise full-time civil servants from the Animal Health Department, the Hygiene and Public Health Department - Products of Animal Origin and the Hygiene and Public Health Department - Products of Plant Origin. In special circumstances, in particular in case of crisis, additional civil servants would be made available from National Reference Laboratories from Ministry of Public Health, MAFDR (Phyosanitary Units), and a member of the future Press Office of ANSVSA.

**Laboratory Needs under EU:** Romania has taken the commitment in the accession negotiation to incorporate the EU acquis, which includes the upgrading of the existing laboratories as part of capacity building of the Institution. This is necessary in order to comply with the different legal requirements on laboratory examination in the different EU legislative Acts in the animal, public health and in the animal feed sector. EU requires 3 levels of laboratories: regional (routine) laboratories, national reference laboratories, and EU reference laboratories. The regional laboratories are used for the routine examination set out in the different animal health and public health legislative acts. The national reference laboratories are in charge of confirmation of the results of regional laboratories in case of doubtful results, or in case a keeper of animals or an agri-food producer is faced with a positive result and is contesting the result of the official sampling to avoid economic consequences due to the measures to be taken in such cases by the competent authority. National reference laboratories also play an important role in the harmonization of the analysis procedures and methodology in carrying out ring trials with the routine laboratories concerned. Reference laboratories also participate in ring tests organized by the EU reference laboratories to be always updated with the most advanced methodology. It is also their responsibility to train the regional laboratories on the new analytic methods.
National Reference Laboratories: The project would support two activities for National Reference Laboratories under ANSVSA. First, the Institute for Veterinary Hygiene and Public Health (IVHPH), which is under ANSVSA and which has to move from its present cramped quarters in Bucharest. It would be relocated to a new building to be built on ANSVSA-owned land. IVHPH has sufficient equipment already provided by the EU but in the present out-dated building it cannot satisfy EU requirements, nor is the building satisfactory for renovation to meet EU requirements for accreditation. The cost of the building construction would be supported by the project. Second, the project would also support the establishment of a laboratory facility for analysis of animal feeding stuffs in the new building of the IVHPH and provide necessary equipment as required.

Regional Laboratories: In regard to the regional laboratories, it was agreed to support the provision of essential equipment in 3 laboratories in Brasov, Bucuresti and Prahova. The regional laboratory in Prahova requires also support for refurbishing its interior in order to facilitate the necessary flow of activities.

Support for Border Inspection Posts (BIP): The project would provide for investments in civil works and equipment at 3 Border Inspection Posts: Constanta North, Constanta South and Otopeni. Since Constanta is one of the most important BIP and covers almost 60-70% of all imports and exports, it has two entry points. The Project will support both entry points. The Otopeni BIP which is the only airport BIP would be supported by the Project through the establishment of a new building, some facilities for the veterinary unit, as well as for the Phyto-sanitary unit to handle plant materials.

Animal Welfare: ANSVSA would contract the Pasteur Institute to carry out a program for Animal Welfare in livestock production to demonstrate the EU requirements. While the Pasteur Institute is privately owned, it is listed as National Institute under the Ministry of Agriculture, Forests and Rural Development, which holds a "golden share". The project will develop a Demonstration and Training Facility at premises agreed with the Pasteur Institute according to a proposal prepared by the Institute and agreed to by the ANSVSA.

Phyto-sanitary units: The project would support the Phyto-sanitary Department within the MAFRD, the Phyto-sanitary Department’s two National Reference Laboratories as well as regional laboratories. The pre-accession strategy provides the need to strengthen the administrative and institutional framework in order to comply with the acquis requirements. In this regard it is necessary to continue also the upgrading of the Phyto-sanitary laboratories up to the adequate level. Thus the Central Laboratory for Phyto-sanitary Quarantine and the Central Laboratory for Pesticides Residues Control for Plants and Plant Products need strengthening in order to receive accreditation, through additional laboratory equipment. Some of the Regional Laboratories require additional laboratory and IT equipment in order to implement the national monitoring programs. Also, as the staff of the Phyto-sanitary Department within MAFRD has been increased
recently in order to comply with EU requirements in this field, would require training and additional IT facilities.

**Training Program:** There is need for a substantial training program both to bring staff of the authority and its subordinate units up-to-date on EU requirements as well as to maintain proficiency levels in the future. The ANSVSA would be responsible for implementing its staff training program at all levels but would receive help from the proposed Training & Information Center that is to be supported by the MAKIS Project. Some 400 Food Safety Inspectors and others would be trained by the Center.

**Project Funding for Food Safety:** Project funds for the Food Safety Component would be provided to ANSVSA under a subsidiary agreement between MOPF and the ANSVSA, and an account would be established to receive the funds directly. Funds for the Phyto-sanitary units would be provided through MAFRD.

**Component 2: Support for Agricultural Research (EUR 19.439 million)**

The objective of the agricultural research component is to strengthen the capacity of the national agricultural research system (NARS) to provide agricultural knowledge, skills and information based on the needs of the agri-food sub-sector and in line with the EU requirements.

MAKIS would support Romania’s AKIS through the following sub-components:

(i) **Reform Program:** Providing selected priority Research Institutes with an opportunity to reform towards a model “Center of Excellence” that is client-driven, performance-oriented and financially sustainable. Research Institutes would be provided technical assistance to develop re-structuring strategies and an investment program for reform. Eligibility for support would depend upon achieving “National Institute” status and the approval of the detailed time-bound reform and implementation program by the Government and the World Bank.

(ii) **Establishing National Reference Laboratories** necessary to be functional immediately after accession for implementation of: (a) nitrates and sludge directives; and (b) certifying absence of Genetically Modified Organisms (GMO).

(iii) **Mainstreaming the Competitive Grant Scheme (CGS)** into the Government’s (MAFRD’s) routine agricultural research funding for core public sector activities.

**Reform Program:** Based on the recent “Strategy for Sustainable Development – horizon 2025”, issued under the Romanian Presidency and MAFRD, priorities were set for achieving a sustainable agriculture and food industry, focused on EU accession. In accordance with the strategy as well as on the basis of consultations with different players in the agriculture and research community, four priority areas/programs were
selected for MAKIS support on the basis of comparative advantage, potential for export earnings, social and economic importance, environmental and economic sustainability, and the national strategy for food safety. These programs include the development of: (a) safe plant nutrient management practices and the identification and monitoring of vulnerable zones in terms of soil fertility and water quality, including developing remedial measures and promoting good agricultural practices; (b) high quality, authentic planting materials for horticultural, vegetable and ornamental crops, and the establishment of certification capacity for non-GMO plant and food products of plant origin, and development of bio-safety and regulatory procedures for GMO; (c) profitable, environmentally safe, diversified cropping systems for the production of high quality food and feed within an overall Field Crops Research Program for plain and upland areas, including arable crops, forages, potatoes; and (d) profitable, environmentally sustainable and safe animal nutrition and feed systems.

To address these core research programs, five priority Research Institutes have been identified for technical assistance and investments under MAKIS. These include: the National Research and Development Institute for Soil Science, Agro-chemistry and Environmental Protection (RISSA) in Bucharest; the National Research and Development Institute for Bio-technology in Horticulture (NRDIBH) at Stefanesti; the Agricultural Research and Development Institute (ARDI) at Fundulea; the Potato and Sugar Beet Research and Development Institute (PSRDI) in Brasov; and the Animal Biology and Nutrition Institute (IBNA) at Balotesti. The selection of these institutes, as most relevant and capable to lead implementation of the priority research areas, was jointly agreed upon by MAFRD, ASAS, Ministry of Education and Research (MER), as well as relevant stakeholders.

Two of the institutes (RISSA, Bucharest and NRDIBH, Stefanesti), have already been cleared by the Ministry of Education and Research, to become “National Institutes” according to the Law 147/2004. The Government is in the process of drafting legislation to transform the other three research institutes (ARDI Fundulea, PSRDI Brasov, and IBNA Balotesti) into National Institutes.

During the first year of project implementation, each of the Institutes will develop detailed reform and implementation plans to be undertaken so as to transform each institute into a well-performing entity that would help Romania meet and comply with EU accession requirements in research. Detailed agreements to prepare the reform and implementation plans were formally agreed upon and signed by the respective Research Institute directors, ASAS and MAFRD during MAKIS appraisal (see Attachment 2 for the signed agreements); requirements for technical assistance to design the reforms were also tentatively agreed. The key agreed areas for reforms include changes in: (i) mandate; (ii) organizational structure; (iii) governance; (iv) research management; (v) modernization of research infrastructure; (vi) human resource development; (vii) monitoring and evaluation; and (viii) funding. The plans will detail the reforms to be undertaken, including a time-bound implementation plan that also reflects a realistic sequencing and phasing of the reform activities with milestones/triggers for receiving...
project funds. The reform plans would be reviewed by MAFRD, ASAS, MER, and the World Bank. Once approved, funds under the reform sub-component of the Project would be released for disbursement.

Both RISSA and NRDIBH have already taken important steps on the reform path and with some additional work are expected to be able to prepare their full-fledged reform plans soon after project effectiveness, in which case they would be expected to start implementation of the plans early in PY1; for each of the other Institutes, implementation would begin as soon as their respective reform plans have been finalized and approved. It was agreed that these plans would be prepared and approved no later than the end of PY1.

Field Crops Research: Upon becoming National Institutes, ARDI and PSRDI would in addition to developing their restructuring programs, also prepare a coordinated and cost-effective approach to Field Crops Research. It was agreed that during PY1, a working group comprising the directors of the two institutes, selected Institute staff and if required, local and external technical specialists, would develop a collaborative program for Field Crops Research including plans for reform of the two institutes, covering, inter alia, the number of experimental stations, specific departments required and their location, crops to be covered, importance of breeding and the generation of production technologies, staffing needs, etc. In all cases, opportunities to contractually involve the private sector in implementation of research and development activities would be sought. This group would prepare recommendations for the collaborative program and reform of the two institutes for approval by a management group comprising ASAS, MAFRD and PMU. After receiving the World Bank “no objection”, MAKIS financing would be released for implementation of the Action Plan.

Performance Based Incentives. The proposed Project provides considerable incentives for the research scientists to undertake the reform activities proposed above. The main elements of the incentive system today which are in part the result of Bank interventions (policy dialog and investment programs, including preparation of MAKIS) include: (i) access of researchers to competitive grants of several Government-funded programs; this means additional business, incremental resources, and above all, scientific recognition in an operational context; (ii) access of researchers to international competitive grants, including from the European Research Area and through regional and international organizations; (iii) provision of improved work space, laboratory equipment and especially training, which will motivate researchers and enhance their capacities; and (iv) according to the new law no.147/May 2004 for research (passed during the MAKIS pre-appraisal mission after discussions with Government), research institutes can collect and retain extra-budgetary revenues (e.g., from private sector contracts and competitive funds), which they can use for their development, including bonuses and premiums for scientists’ salaries, subject to performance (e.g., number of projects successfully managed, satisfactory outcomes, etc.).
**National Reference Laboratories:** These laboratories to be established at RISSA and at NRDIBH are required to be functional immediately after EU accession for implementation of: (a) the EU nitrates and sludge directives, and (b) certifying absence of Genetically Modified Organisms (GMOs) in order to facilitate access to the EU markets. These laboratories would of course simultaneously function to serve other needs in terms of complex analytical work not only at the two concerned Institutes but also more broadly for other NARS institutions.

**Mainstreaming the CGS:** The ongoing competitive grant funding for applied research under the ASSP, will be expanded and mainstreamed gradually over the life of the project as one of MAFRD’s core activities. The revised CGS manual developed on the basis of ASSP experience and incorporating good practices from similar grant schemes in other countries, would continue to provide the guiding principles for awarding and managing grants.

The CGS Unit would be managed by MAFRD. A CGS Technical Unit would be set up within the MAFRD, with a staff of 3 - 4, who would be incremental to MAFRD staff. With the assistance of the CGS Technical Unit staff and the CGS Board, the MAFRD will be responsible for identifying the priorities, reviewing the proposals and awarding the grants. The Project envisages that the CG Board will continue to have adequate representation of farmers, NGOs, producers’ associations, and private sector representatives, as is the case under ASSP.

Until such time that a satisfactory financial management system and staffing, including for tranche payment of grants is established in the MAFRD Financial Department, the Project Management Unit will continue to be responsible for the financial management aspects of the CGS. Efforts will be made to train the MAFRD staff in financial management aspects as soon as possible so that this function can be transferred to the MAFRD latest by the mid-term review.

The CGS operational manual developed under ASSP was revised to reflect the mainstreaming of the system. These changes include the following: raising the limit for proposals up to US$250,000 equivalent with up to 4 years implementation subject to type of activity, provision for payment of scientists’ salaries up to a maximum of 20% of total costs from the Republic of Romania CGS contribution, provision for research operational costs of up to 30%, and payments to be made in larger tranches with not more than 2 per year against agreed milestones. With regard to requests for proposals it was agreed that these should be framed so as to stimulate demand-driven research on the basis of real needs expressed by producers and agro-processors.

The CGS funds would be available to finance any research enterprises, including National Institutes under MAFRD, other institutes under ASAS and the private sector. The total amount of grants able to be committed would be EUR9.4 million. Out of this total amount, MAFRD would make available a sum of EUR5.5 million equivalent from its sectoral funds for research and IBRD’s contribution would be EUR 4 million during
the life of the project. Government funds would be used, inter alia, for covering salaries of research staff working on the grant-funded programs. Institutions receiving grants would be expected to contribute 20% of the total cost of the program in cash and/or kind.

Component 3: Support for Advisory and Information Systems (EUR8.521 million)

For Romanian farmers to become competitive in the EU and obtain the benefits of the Common Agricultural Policy (CAP), they will require much more effective access to information and research results than has been the situation to date. There is a need to strengthen the flow of information on technologies related to production, quality control, food safety, processing and marketing with respect to EU standards, and provide an authoritative point of reference. Furthermore, while progress has been made in disseminating EU requirements through staff and farmer training programs, trainers need to develop a more comprehensive understanding of both food safety and agricultural technologies and have access to a definitive database. In meeting these needs, the project will support two sub-components: (i) the establishment of a Training and Information Center; and (ii) improving effectiveness of advisory services.

Objective: The main objectives of this component are: (a) to improve the capacity of the research, extension and food safety specialists to better serve the needs and improve competitiveness of farmers/ producers and processors in the context of EU accession; and (b) to increase access of farmers and processors to knowledge on technologies related to production, quality control, food safety, processing and marketing in order to meet the EU requirements.

Establishment of the Training and Information Center (TIC)

The Training and Information Center (TIC) will be set up as a knowledge resource base, accreditation and training center for trainers, extension agents, food safety inspectors and researchers in all EU directives, as well as new agricultural technologies. The TIC will be located at Bucharest Agricultural and Veterinary University and will have linkages with the agricultural universities in Cluj, Iasi and Timisoara. The Republic of Romania has selected the Bucharest Agricultural and Veterinary University to house the TIC. These four universities were identified as the best option as individual research institutes have a specialized, narrow focus with specific mandates and lack appropriate staff and facilities for undertaking the training required for meeting the broad-based training needs under the project. There is no private sector or other alternative source that is in a position to provide training in such broad topics as will be required on the project. There may be individuals who can provide some training but the Universities are unique in that they are the only institutions with adequate facilities, staff, geographic reach, organization and good reputation that can effectively provide the needed training and remain updated on the latest relevant technologies and information. Also, since the training will be provided in the local language, the work cannot be undertaken outside Romania. Locating the TIC in these Universities is the most sustainable way to ensure that such training will continue after the project ends.
The TIC will be established as a unit fully integrated in the existing structures of universities, and will be hired on a contractual basis by the PMU. The Bucharest TIC will develop its capacity to provide training as required, in areas including: food safety, industrial plants farming, poultry production, vegetables, environment preservation and economic aspects of the farm management.

The other three universities will deal with regional agricultural technologies, more specifically: USAMV Cluj with beekeeping, cattle production, fodder farming and sheep and goats; USAMV Iasi with viticulture, fruit-tree growing and fruit shrubs; and USAMV Timisoara with grain farming, swine production, floriculture and decorative plants. The primary responsibility of continuously updating the information regarding the EU requirements will rest with the University in Bucharest. However, all training themes will be developed in the context of EU accession and subject to change based on subsequent requirements.

The proposed TIC will build and maintain capacity for and access to information on the relevant technologies. The information database will be continuously updated on changing EU agro-environmental requirements and directives, as well as on the best technologies and opportunities available worldwide. The TIC will: (i) bring knowledge on agricultural technologies from the country and from abroad in order to meet both the farmers needs and the EU requirements; (ii) develop relevant extension packages and training modules for selected topics for each agro-farming area; (iii) train trainers and providers of agricultural extension and advisory services and providing them accreditation; (iv) train trainers and inspectors within the food safety system and providing them accreditation; (v) train researchers on how to develop research proposals and integrate within the European Research area; (vi) develop and implement an IT system to serve as knowledge and learning tool. The system will include a database containing EU legislation and requirements regarding agriculture, rural development and food safety, new production and processing technologies, continuously updated.

The Training and Information Center would function under the direct supervision of a Consultative Council comprising representatives of MAFRD, National Agency for Agricultural Consulting (ANCA), ANSVSA, ASAS, the PMU, representatives of the private sector and representatives of the four universities concerned.

The main responsibility of the Consultative Council will be to annually approve the training programs to be delivered in the Training and Information Center based on information regarding:

- the training needs identified by the extension personnel who is in touch with farmers at the local level (CJCA/CLCAs);
- special needs assessments carried out in order to determine gaps in farmers’ knowledge on specific matters;
- priorities set up by the MAFRD in order to meet the EU requirements;
training programs developed for the extension and food safety specialists by ANSVSA or ANCA with funds from other sources.

This is aimed at: (i) facilitating the active involvement of key stakeholders during project implementation, and (ii) harmonizing farmers’ training needs with the priorities set up by the MAFRD in order to meet EU requirements.

Most of the courses delivered by the TIC in the first three years of the project will be professional courses aimed at developing and enhancing the knowledge and understanding of the extension and food safety specialists with respect to food safety and agricultural technologies in the context of EU accession and accrediting them to provide increased extension services. In the subsequent years, the TIC will also provide annual refresher training courses to upgrade the specialists’ capacities on a continuing basis.

The project will provide support for: (a) training to be delivered in the Training and Information Center (TIC); (b) technical assistance to strengthen the TIC capacity; (c) designing and implementation of an integrated IT system hosted by the universities to accommodate the TIC. The PMU would draw up an annual contract between MAFRD and the universities to provide the funds for annual training programs to meet requested demands from, *inter alia*, ANSVSA, ANCA and the private farm and agro-processing sector. Annual training programs would be agreed with IBRD. Courses for ANCA would be expected to include accreditation of extension agents as required by EU, while courses for ANSVSA would include the training of some 400 food safety inspectors. It would be expected that over time the Universities would move to a charge-back system under which they would recover part or all of the cost of training courses.

**Improving Effectiveness of the Advisory Services**

This sub-component would support the development of the advisory services in two ways: (a) a range of advisory and training activities would be supported using contracted service providers; (b) improved working practices would be introduced into the existing public advisory system.

(a) **Contract Extension Activities:** The project will carry out information campaigns, training of farmers and producers, studies and surveys using contracted service providers. The contracted suppliers are expected to be drawn from the private and public suppliers such as private companies, NGOs, producer associations, staff of agricultural high schools, research institutes and stations, universities and other training and information suppliers. The CJCA/CLCA will also be able to participate in the project as contracted service providers. All activities would be carefully designed and selected not to duplicate ongoing activities and would be in addition to the regular extension program wherever there is a significant unmet demand. All activities would be carefully evaluated as to their effectiveness in extending information and increasing knowledge, particularly in the area of EU regulations and directives, with the aim to provide feedback to help improve the extension methodology and content.
The project will finance intensive multi-media information campaigns in specific topics where information is needed by farmers and the rural population. Information campaigns would focus on specific EU regulations and directives, on levels and access to subsidies, and to assist farmers to take advantage of market opportunities. Campaigns would generally include a range of delivery methods, including workshops, posters, radio/TV broadcasts, newspaper articles and leaflets.

Additionally, the project will finance training courses in agricultural topics designed primarily to train farmers, agro-processors and small businessmen, which in turn allows the producers to market their produce, access subsidies, and access credit.

Provision will be made for specific studies to define the priorities and the content of the program activities, and to evaluate the effectiveness of the programs. Studies could include assessments of training needs in the regions, to determine gaps in farmers’ knowledge of EU requirements, to evaluate the effectiveness of associations, and to carry out external evaluations of specific information campaigns and farmer training programs.

(b) Improving the Existing Public Advisory System: The activities to be undertaken under this sub-component are aimed at: logistic support for ANCA, training the staff of ANCA and of the associated CJCA/ CLCA system, upgrading the information flow capacity of the existing advisory system (IT equipment and development of a website), assisting ANCA in developing a program of paid services, particularly for larger commercial farmers, other commercial entities and producer associations in order to ensure future sustainability and to prepare for possible privatization.

Component 4: Project Management Unit (PMU) (EUR2.061 million)

The project management component would provide for project co-ordination and administration, procurement, financial management, reporting, monitoring and evaluation activities for all components. The MAKIS-PMU would be formed on the basis of the existing ASSP-PMU with staffing reflecting the needs of the MAKIS. This will comprise a Project Director, three technical specialists (one for each component), three for financial management and accounting, two procurement specialists, two for MIS, M/E and translation, an administrative assistant and two drivers. Funds would also be provided for hiring short-term consultants on a need basis. Two of the PMU staff would be located in ANCA. The project would provide for purchase of some additional equipment and a vehicle, rehabilitation of premises, together with salaries and operating costs over five years.
Annex 4: Attachment 2

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

Reform Program for Research Institutes

(See attached file)

Annex 1 -- National Research and Development Institute for Soil Science, Agro-chemistry and Environmental Protection (RISSA), Bucharest

Annex 2 -- National Research and Development Institute for Bio-technology in Horticulture (NRDIBH), Stefanesti

Annex 3 -- Agricultural Research and Development Institute (ARDI), Fundulea

Annex 4 -- Potato and Sugar Beet Research and Development Institute (PSRDI), Brasov

Annex 5 -- Animal Biology and Nutrition Institute (IBNA), Balotesti.
Romania
Modernizing Agricultural Knowledge and Information Systems (MAKIS) Project

Reform Program for Research Institutes

The project

The MAKIS development objective is to assist the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment. This will be achieved through: (i) strengthening the National Agency for Sanitary, Veterinary and Food Safety and the phyto-sanitary units; (ii) support for agricultural research to strengthen the capacity of the national agricultural research system (NARS) to provide agricultural knowledge, skills and information to farmers, agro-processors and extension workers based on the needs of the agro-food sub-sector and in line with the EU rules; and (iii) improved advisory services to increase access of farmers, agro-processors and producers to technologies and knowledge related to production, quality control, food safety, processing and marketing in order to meet EU requirements.

Support for Agricultural Research

One of the activities proposed under the research component, is to support four priority research programs that provide core public research services that are key to Romania's agricultural development needs and the EU accession agenda. They include: (a) safe plant nutrient management practices and the identification and monitoring of vulnerable zones in terms of soil fertility and water quality, including developing remedial measures and promoting good agricultural practices; (b) high quality, authentic planting materials for horticultural, vegetable and ornamental crops, the establishment of certification capacity for non-GMO plant and food products of plant origin and development of bio-safety and regulatory procedures for GMO; (c) profitable, environmentally safe, diversified cropping systems for the production of high quality food and feed within an overall field crops research program for plain and upland areas, including arable crops, forages, and potatoes; and (d), profitable, environmentally sustainable and safe animal feed and nutrition systems.

The Government has identified five Research Institutes to become "National Institutes" and take lead responsibility for implementation of the priority research programs. The National Research Institute for Soil Science, Agro-chemistry and Environmental Protection ("RISSA") in Bucharest and the National Research Institute for Bio-technology in Horticulture ("NRDIBH") at Stefanesti), have already been cleared to become "National Institutes" (Law 324/July 2003); the formal Government ordinance is expected to be issued before August 31, 2004. These two institutes would also house "National Reference Laboratories" for implementation of the EU nitrates and sludge directives and non-GMO certification in plant foods and feed, respectively. The Government is taking legal steps to transform another three institutes into National Institutes (the Agricultural Research Institute at Fandulea, the Potato and Sugar Beet Research Institute at Brasov and the Animal Biology and Nutrition Institute at

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1 The MAKIS research component in addition also comprises support for the establishment of two National Reference Laboratories and for mainstreaming the Competitive Grant System for agricultural research into the regular operations of the Ministry of Agriculture and Rural Development (MAFRD).
Balotesti. The Ministry of Research Education and Youth has indicated that the formal transition of these three to National Institute status under Law 324/July 2003 will also be achieved before the end of August. To ensure that all five of these National Institutes will be in a position to meet the overall national and MAKIS project objectives, the Government has agreed to provide long-term budgetary support in terms of research operating costs and staff salaries to each of the research institutes through the Ministry of Research, Education and Youth and MAFRD. As a condition for support, Government has requested that each institute prepare a re-structuring program including a time-bound implementation plan, work programs and budgets reflecting realistic phasing and sequencing of the reform activities. This would include specific pre-requisites or "triggers" for receiving MAKIS financing for implementation of the reforms.

MAKIS would provide technical assistance to the five institutes that will become national institutes for the preparation of the plans for reform, and subsequently investments for their implementation, to ensure that each institute is transformed into a well-performing entity that meets the overall MAKIS objectives and Romania's priority needs, particularly in the context of EU accession. Each of the five institutes will be able to use the ear-marked funds for reform and institutional strengthening only after their detailed action and implementation plans for reform are approved jointly by MAFRD and the Bank, and in consultation with ASAS.

A template was designed to provide the concerned Research Institutes with guidelines for the essential reforms to be undertaken. These guidelines focus primarily on seven key areas: (i) institute mandate; (ii) governance; (iii) research organization and management; (iv) modernization of research infrastructure; (v) human resource development; (vi) monitoring and evaluation; and (vii) funding. Within the agreed framework, each Research Institute is expected to immediately start preparation of the detailed and time-bound implementation plans for reform, and complete these within one year from August 2004. As soon as these detailed and phased plans are finalized by any of the five concerned Agricultural Research Institutes, they would be submitted to the relevant national entities for clearance and to the World Bank for a "no objection". Once the plans are jointly endorsed by the Government and the Bank, funds will be released immediately for their implementation according to the agreed time schedule.

On July 31 and August 1, 2004, the MAKIS appraisal mission discussed the institutional reform template in detail with the management of the concerned Institutes. All five Institute Directors agreed to undertake the reforms and prepare the detailed plans and requirements in each reform action area, as part of their restructuring and reform plan within the next year. The agreements reached with the five institutes are attached in Annexes 1-5. After further discussion with the concerned Government entities on the specific reforms, their timetable of implementation and any required assistance, the agreements were signed by the Institute managements, ASAS and MAFRD as part of the July/August, 2004 MAKIS appraisal.

However, as soon as an Institute would submit the detailed and time-bound proposed reform program, they would be reviewed and approved on a "first-come, first-served" basis.
Annex 1

National Research and Development Institute for Soil Science, Agro-chemistry and Environmental Protection ("RISSA") - Bucharest

I. Mandate of Research Institute

- Review the current mandate and its relevance; Develop a new mandate which addresses the following questions:
  - What are the implications of the legal framework establishing the research institute and of the current laws for research?
  - What are the overall revised objectives and purposes of the research institute?
  - What are the specific focal areas that the institute will target over the next 5 years?
  - What are the overall desired outcomes of the research institute and how will they benefit society?

RISSA is already close to becoming a national institute and several of these activities have already been started. RISSA agrees to accomplish the activities related to its new mandate in about two months\(^1\). No technical assistance (TA) is required.

II. Governance

- Undertake a review of the current Institute governance.
- Develop a new governance structure.
- Develop Terms of Reference for the Board of stakeholders
- Establish the Board of Directors

Define clearly: Who reports to whom? Who makes policy? Who enforces policy? Who holds the purse strings? What is the flow of funds? Who makes the decisions? Who is responsible for implementing the decisions of the Board?

The new governance structure must be:
  - Autonomous
  - Client-responsive
  - Flexible
  - Transparent
  - Accountable
  - Lean, yet with client majority and representing the broad spectrum of stakeholders, such as farmers, agro-processors, producer organizations, extension workers, University, private sector, NGOs and relevant ministries

RISSA agreed to accomplish the activities related to its Governance, including the reconstitution of its Board immediately after its establishment as a national Institute and expects to complete this in about five months.

III. Research Organization and Management

Undertake a review of the current organizational structure including of the current research departments, units, laboratories, sub-stations and their management.

\(^1\) Some of the periods required for the different items are expected to be implemented concurrently.
Develop a new organizational structure to achieve the revised institutional mandate

For each department and unit:

- Review, how is it being financed, what are the outputs?
- Based on the new mandate and research priorities, identify what research departments, units, staff, laboratories, field facilities, experimental stations, and support services are required.
- What departments or facilities can be consolidated or merged?
- What departments, units or facilities are redundant?
- What are the staff requirements for the restructured departments and units?

Develop Terms of Reference and responsibilities for all the research departments and units to be supported under the reformed research institute.

Develop a plan for hiring heads of the departments and research staff on a competitive/contractual basis.

Design procedures to deal with redundant staff including through re-assignment to other duties.

Develop mechanisms for public-private collaboration as well as national, regional and international collaboration.

Develop mechanisms for priority setting for financing research. This priority-setting exercise should include stakeholder involvement.

RISSA agreed to accomplish these activities immediately after its establishment as a National Institute and expects to complete the exercise in about five months. The institute indicated that technical assistance of about 2 staff weeks would be required especially in priority setting, developing a new organizational structure and in designing TORs.

IV. Modernization of Research Infrastructure

Develop details for building and laboratory rehabilitation, including design and costs within the available financing.

Identify field, laboratory and communication equipment required, develop their specifications and a phased procurement plan.

RISSA agreed to develop an infrastructure modernization plan in about one year, to be implemented during the project implementation period. RISSA needs technical assistance for 2 staff weeks for preparing technical data for complex laboratory equipment and infrastructure.

V. Human Resources Development

Review and update the Staff Operational Manual.

Undertake a core function and a skill-gap analysis, and develop a staffing and training plan.

Develop Terms of Reference for each category of research and support staff.

Improve merit-based staff incentives and policies to attract and retain qualified personnel.

Develop a system for annual performance evaluation of scientists and research units.

Develop policy for re-deploying or retiring redundant staff.
RISSA agreed to design a new HR policy in about six months; TA are needs for 2 staffweeks.

VI. Monitoring and Evaluation

Develop a Monitoring and Evaluation plan, procedures and capacity

This should include arrangements for regular evaluation of the research departments, research units and research projects with a focus on their outputs and performance, and providing opportunities for beneficiary impact and assessment.

RISSA agreed to design a monitoring and evaluation plan and procedures in about four months. Approximately 1 staffweeks of technical assistance would be required

VII. Funding

Formulate financial management and administration procedures clearly separating research and development/commercial activities.

Ensure adequate funding for each approved research project during its implementation.

Ensure core budget funding for operating and salary costs for each research institute

Identify ways to increase private sector and beneficiary support for research

Provide incentives for securing international and national competitive grants for research and collaboration with relevant national and international research centers.

RISSA agreed to develop and implement the funding related activities in about six months and would require about 3 staff weeks of technical assistance, especially in designing transparent financial management systems and to determine how to increase private sector and beneficiary support.

General Director of the Institute,

Prof. Dr. Viorica Dumitru
Annex 2

National Research and Development Institute for Bio-technology in Horticulture ("NRDIBH") Stefanesti

I. Mandate of Research Institute

- Review the current mandate and its relevance; Develop a new mandate which addresses the following questions:
  - What are the implications of the legal framework establishing the research institute and the current laws for research?
  - What are the revised overall objectives and purposes of the research institute?
  - What are the specific focal areas that the institute will target over the next 5 years?
  - What are the overall desired outcomes of the research institute and how will they benefit society?

NRDIBH is close to becoming a national institute and many of these activities were started. NRDIBH agreed to accomplish the activities related to its new mandate in about two months'. No technical assistance is required.

II. Governance

- Undertake a review of the current Institute governance.
- Develop a new governance structure.
- Develop Terms of Reference for the Board of stakeholders.
- Establish the Board of Directors

Define clearly: Who reports to whom? Who makes policy? Who enforces policy? Who holds the purse strings? What is the flow of funds? Who makes the decisions? Who is responsible for implementing the decisions of the Board?

The new governance structure must be:
  - Autonomous
  - Client-responsive
  - Flexible
  - Transparent
  - Accountable
  - Lean, yet with client majority and representing a broad spectrum of stakeholders, such as farmers, agro-processors, producer organizations, extension workers, University, private sector, NGOs and relevant ministries.

1 Some of the periods required for different items would be concurrent.
NRDIBH agreed to accomplish the activities related to its governance in above five months. No need for TA is foreseen.

III Research Organization and Management

Undertake a review of current organizational structure, including of the current research departments, units, laboratories, sub-stations and their management.

Develop a new organizational structure to achieve the revised institutional mandate

For each department and unit:
- Review, how is it being financed, what are the outputs?
- Based on the new mandate and research priorities, identify what research departments, units, staff, laboratories, field facilities, experimental stations, and support services are required.
- What departments or facilities can be consolidated or merged?
- What departments, units or facilities are redundant?
- What are the staff requirements for the restructured departments and units?

Develop Terms of Reference and responsibilities for all the research departments and units to be supported under the reformed research institute

Develop a plan for hiring heads of the departments and research staff on a competitive/contractual basis

Design procedures to deal with redundant staff including through re-assignment to other duties

Develop mechanisms for public-private collaboration as well as national, regional and international collaboration

Develop mechanisms for priority setting for financing research. This priority-setting exercise should include stakeholder involvement.

NRDIBH has recently developed a new institutional organogram. NRDIBH agreed to accomplish the activities related to research organization and management in about five months. Technical assistance of about four-five staffweeks will be required, especially in priority setting, developing a new organizational structure and in designing TORs.

IV. Modernization of Research Infrastructure

Develop details for building and laboratory rehabilitation, including design and costs within the available financing.

Identify field, laboratory and communication equipment required, develop their specifications and a phased procurement plan
NRDIBH agreed to develop a modernization plan within about one year, to be implemented during the project period.

V. Human Resources Development

Review and update the Staff Operational Manual
Undertake a core function and a skill-gap analysis, and develop a staffing and training plan.
Develop Terms of Reference for each category of research and support staff
Improve merit-based staff incentives and policies to attract and retain qualified personnel.
Develop a system for annual performance evaluation of scientists and research units
Develop policy for re-deploying or retiring redundant staff

NRDIBH agreed to design a new HR policy in about six months. No TA is required.

VI. Monitoring and Evaluation

Develop a Monitoring and Evaluation plan, procedures and capacity
This should include arrangements for regular evaluation of the research departments, research units and research projects with a focus on their outputs and performance, and providing opportunities for beneficiary impact and assessment.

NRDIBH agreed to design a monitoring and evaluation plan and procedures in about four months. Approximately one staff-week of technical assistance would be required.

VII. Funding

Formulate financial management and administration procedures clearly separating research and development/commercial activities.
Ensure adequate funding for each approved research project during implementation.
Ensure core budget funding including for salaries for each research institute
Ensure adequate funding for overall operating costs of the restructured research institute
Identify ways to increase private sector and beneficiary support for research
Provide incentives for securing international and national competitive grants for research and collaboration with relevant national and international research centers.

NRDIBH recently updated its financial management and administration procedures.
NRDIBH agreed to develop and implement the funding related activities in about six months and would require about five-six weeks of technical assistance, especially in designing transparent financial management systems and to determine how to increase private sector and beneficiary support.

General Director of the Institute,
Prof. univ. dr. ing. Teodorescu Alexandru

[Signatures]
Annex 3

The Agricultural Research Institute (ARDI) Fundulea

In the context of discussions on August 1st, 2004 with World Bank representatives about implementation of the MAKIS project, the Agricultural Research Institute (ARI) Fundulea agreed on the necessity of undertaking far-reaching reforms, including concerning the following aspects:

I. Mandate of Research Institute

- Review current mandate and its relevance; Develop a new mandate which addresses the following questions:
- What are the implications of the legal framework establishing the research institute and the current laws for research?
- What are the overall revised objectives and purposes of the research institute?
- What are the specific focal areas that the institute will target over the next 5 years?
- What are the overall desired outcomes of the research institute and how will they benefit society?

In order to prepare for the transformation into a "National Institute" ARDI has already submitted a self-evaluation study to the Ministry of Education and Research, as requested by law. The Ministry plans its own evaluation of Fundulea before mid-August and a formal Government decision is expected soon. According to the present legal framework, the documentation was prepared for the entire Institute, in its present form of organization, but organizational changes are recognized as necessary in the near future. Several alternatives of future possible organizational changes have been discussed. Taking into account the need to ensure long-term sustainability of the research teams supported under MAKIS, as well as the necessity of meeting EU regulations on "state aid", ARDI agrees to the re-structuring of the Institute in two distinct institutions as soon as possible. The first one, including the "Crop management" and "Basic research" sector, which will be involved in MAKIS and need long-term budgetary support during and after MAKIS completion will become a National public Institute. The second one, including the "Plant Breeding" and "Seed Production" sector, will become a self-financing structure. ARDI will need assistance under MAKIS to ensure a satisfactory transformation of Fundulea into these two new entities. ARDI agreed to develop a new mandate for the Institute (and/or for the future two entities that would be formed), based on the analysis of the new priorities and requirements of Romanian society in the rapidly evolving context of European integration and globalization within the next six months. TA of about two months would be required, especially in determining the priorities for research of the re-structured public Research Institute.

II. Governance

- Undertake a review of the current Institute governance.
- Develop a new governance structure.
- Develop Terms of Reference for the Board of stakeholders
- Establish the Board of Directors

Define clearly: Who reports to whom? Who makes policy? Who enforces policy? Who holds the purse strings? What is the flow of funds? Who makes the decisions? Who is responsible for implementing the decisions of the Board?

The new governance structure must be:
- Autonomous
- Client-responsive
- Flexible
- Transparent
- Accountable
- Lean, yet with client majority and representing a broad spectrum of stakeholders, such as farmers, agro-processors, producer organizations, extension workers, University, private sector, NGOs and relevant ministries

ARDI endorsed the need for improvement of the governance structures, in order to achieve a better representation of major stakeholders, client-responsiveness, semi-autonomy and flexibility and expects that this could be completed within about six months after the Government’s ordinance establishing national institute status has been issued. TA of about two staff weeks especially concerning the development of new governance structures and in developing Board TORs would be useful to find the best practice solutions and avoid excessive bureaucracy.

III Research Organization and Management

Undertake review of current organizational structure, including of the current research departments, units, laboratories, sub-stations and their management.

Develop a new organizational structure to achieve the revised institutional mandate

For each department and unit:
- Review, how is it being financed, what are the outputs?
- Based on the new mandate and research priorities, identify what research departments, units, staff, laboratories, field facilities, experimental stations, and support services are required.
- What departments or facilities can be consolidated or merged?
- What departments, units or facilities are redundant?
- What are the staff requirements for the restructured departments and units?

Develop Terms of Reference and responsibilities for all the research departments and units to be supported under the reformed research institute.
Develop a plan for hiring heads of the departments and research staff on a competitive/contractual basis.

Design procedures to deal with redundant staff including through re-assignment to other duties.

Develop mechanisms for public-private collaboration as well as national, regional and international collaboration.

Develop mechanisms for priority setting for financing research. This priority-setting exercise should include stakeholder involvement.

ARDI agreed with the need for improvement of organizational structure and of research management to achieve revised mandate. About two months of TA would be required in designing an improved structure and in determining optimum implementation arrangements. It is expected that the research organization and management-related activities could be completed within about ten months.

IV. Modernization of Research Infrastructure

Develop details for building and laboratory rehabilitation, including design and costs within the available financing.

Identify field, laboratory and communication equipment required, develop their specifications and a phased procurement plan.

ARDI has suffered from a long period of under-financing that precluded modernization of its research infrastructure. MAKIS assistance is expected to play a major role in modernizing the research infrastructure at the level required for a productive, competitive research institute. ARDI is prepared to work out the detailed and time-bound requirements in about one year.

V. Human Resources Development

Review and update the Staff Operational Manual.

Undertake a core function and a skill-gap analysis, and develop a staffing and training plan.

Develop Terms of Reference for each category of research and support staff.

Improve merit-based staff incentives and policies to attract and retain qualified personnel.

Develop a system for annual performance evaluation of scientists and research units.

Develop policy for re-deploying or retiring redundant staff.

Despite considerable efforts in developing human resources, there is an urgent need for assistance in ensuring better conditions for attracting new researchers and for maintaining qualified personnel. ARDI expects that the activities related to HRD could be completed in about six months. ARDI would expect a need for about two staff weeks of TA to complete these tasks.

VI. Monitoring and Evaluation
Develop a Monitoring and Evaluation plan, procedures and capacity.

This should include arrangements for regular evaluation of the research departments, research units and research projects with a focus on their outputs and performance, and providing opportunities for beneficiary impact and assessment.

Although some measures have been taken to improve M&E, ARDI would appreciate MAKIS assistance for designing enhanced M&E arrangements based on further improving the existing system. About two months of TA would be required and the work is expected to be completed within a period of about six months.

VII Funding

Formulate financial management and administration procedures clearly, separating research and development/commercial activities.

Ensure adequate funding for each approved research project during implementation.

Ensure core budget funding including for salaries for each research institute.

Ensure adequate funding for overall operating costs of the restructured research institute.

Identify ways to increase private sector and beneficiary support for research.

Provide incentives for securing international and national competitive grants for research and collaboration with relevant national and international research centers.

The present system based exclusively on competitive grants, without a proper consideration of priorities, has serious negative effects on research funding. ARDI would request MAKIS-financed technical assistance to help improving the research funding system, by including mechanisms for "core" financing and for competitive grant funding. ARDI expects to complete the tasks under "Funding" in about four months. About one month of TA would be required, especially in designing more transparent financial management and administration procedures and to increase private sector and client support.

General Director of the Institute

Professor Marian VERZE, PhD

[Signatures and seals]
Annex 4

Agricultural Research and Development Institute for Potato and Sugar Beet – Brasov

I. Mandate of Research Institute

- Review current mandate and its relevance; Develop a new mandate which addresses the following questions:
- What are the implications of the legal framework establishing the research institute, and the current laws for research?
- What are the revised overall objectives and purposes of the research institute?
- What are the specific focal areas that the institute will target over the next 5 years?
- What are the overall desired outcomes of the research institute and how will they benefit society?

The Agricultural Research and Development Institute for Potato and Sugar Beet has already submitted a self-evaluation study to the Ministry of Education and Research, as required by law 290 of 2002 and law 147 of 2004, and a Government decision is expected within the next one or two months. The Institute would complete the mandate-related tasks about four months1 after publication of the Government decision. No TA needs are foreseen.

II. Governance

- Undertake a review of the current Institute governance.
- Develop a new governance structure.
- Develop Terms of Reference for the Board of stakeholders
- Establish the Board of Directors

Define clearly: Who reports to whom? Who makes policy? Who enforces policy? Who holds the purse strings? What is the flow of funds? Who makes the decisions? Who is responsible for implementing the decisions of the Board?

The new governance structure must be:

- Autonomous
- Client-responsive
- Flexible
- Transparent
- Accountable
- Lean, yet with client majority and representing a broad spectrum of stakeholders, such as farmers and their federations, agro-processors, producer organizations, extension workers, University, private sector, NGOs and relevant ministries

1 Some of the time periods for implementation of different tasks would run concurrently.
The Institute agreed to accomplish the governance-related activities in about five months after having been established as a National Institute. No TA requirements are foreseen.

III Research Organization and Management

Undertake a review of current organizational structure, including of the current research departments, units, laboratories, sub-stations and their management.

Develop a new organizational structure to achieve the revised institutional mandate.

For each department and unit:
- Review, how is it being financed, what are the outputs?
- Based on new mandate and research priorities, identify what research departments, units, staff, laboratories, field facilities, experimental stations, and support services are required.
- What departments or facilities can be consolidated or merged?
- What departments, units or facilities are redundant?
- What are the staff requirements for the restructured departments and units?

Develop Terms of Reference and responsibilities for all the research departments and units to be supported under the reformed research institute.

Develop a plan for hiring heads of the departments and research staff on a competitive/contractual basis.

Design procedures to deal with redundant staff including through re-assignment to other tasks.

Develop mechanisms for public-private collaboration as well as national, regional and international collaboration.

Develop mechanisms for priority setting for financing research. This priority-setting exercise should include stakeholder involvement.

The institute already partially completed the evaluation of the current structure and agreed to accomplish the organization and management-related activities in above five months. About two staff weeks of technical assistance will be needed in research priority setting and in developing enhanced public/private collaboration.

IV. Modernization of Research Infrastructure

Develop details for building and laboratory rehabilitation, including design and costs within the available financing.

Identify field, laboratory and communication equipment required, develop their specifications and a phased procurement plan.
V. Human Resources Development

Review and update the Staff Operational Manual
Undertake a core function and a skill-gap analysis, and develop a staffing and training plan.
Develop Terms of Reference for each category of research and support staff
Improve merit-based staff incentives and policies to attract and retain qualified personnel.
Develop a system for annual performance evaluation of scientists and research units
Develop policy for re-deploying or retiring redundant staff

The institute agreed to design a new HR policy in about six months. About two weeks of TA would be required to facilitate the core function analysis and develop new TORs for staff.

VI. Monitoring and Evaluation

Develop a Monitoring and Evaluation plan, procedures and capacity
This should include arrangements for regular evaluation of the research departments, research units and research projects with a focus on their outputs and performance, and providing opportunities for beneficiary impact and assessment.

The institute agreed to design a monitoring and evaluation plan and procedures in about four months. Approximately two staff weeks of technical assistance would be required.

VII. Funding

Formulate financial management and administration procedures clearly separating research and development/commercial activities.
Ensure adequate funding for each approved research project during implementation.
Ensure core budget funding including for salaries for each research institute
Ensure adequate funding for overall operating costs of the restructured research institute
Identify ways to increase private sector and beneficiary support for research
Provide incentives for securing international and national competitive grants for research and collaboration with relevant national and international research centers.

The institute agreed to develop and implement the funding related activities in about six months and would require about 10 weeks of technical assistance, especially in designing transparent financial management systems and to determine how to increase private sector and beneficiary support.

General Director
Dr Ing Sorin Chiru

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Annex 5
Animal Biology and Nutrition Institute – Balotesti

I. Mandate of Research Institute

- Review current mandate and its relevance; Develop a new mandate which addresses the following questions:
- What are the implications of the legal framework establishing the research institute and the current laws for research?
- What are the revised overall objectives and purposes of the research institute?
- What are the specific focal areas that the institute will target over the next 5 years?
- What are the overall desired outcomes of the research institute and how will they benefit society?

The Animal Biology and Nutrition Institute (ABNI) Balotesti has already started the process for transformation into a “National” Institute. It submitted a self-evaluation study to the Ministry of Education and Research, as requested by law, and a Government decision is expected soon. ABNI agreed to implement the mandate-related activities and would require about three months to do this.\(^1\) One week of technical assistance (TA) would be needed.

II. Governance

- Undertake a review of the current Institute governance.
- Develop a new governance structure.
- Develop Terms of Reference for the Board of stakeholders
- Establish the Board of Directors

Define clearly: Who reports to whom? Who makes policy? Who enforces policy? Who holds the purse strings? What is the flow of funds? Who makes the decisions? Who is responsible for implementing the decisions of the Board?

The new governance structure must be:
- Autonomous
- Client-responsive
- Flexible
- Transparent
- Accountable
- Lean, yet with client majority and representing the broad spectrum of stakeholders, such as farmers, agro-processors, producer organizations, extension workers, University, private sector, NGOs and relevant ministries

\(^{1}\) Some of the time periods required for different activities would be expected to run simultaneously.
AJNI agreed to accomplish the governance-related activities and depending on the timing of the actual transformation into a National Institute expects to complete this in about six months.

III Research Organization and Management

Undertake a review of current organizational structure, including of the current research departments, units, laboratories, sub-stations and their management.

Develop a new organizational structure to achieve the revised institutional mandate

For each department and unit:
- Review, how is it being financed, what are the outputs?
- Based on the new mandate and research priorities, identify what research departments, units, staff, laboratories, field facilities, experimental stations, and support services are required.
- What departments or facilities can be consolidated or merged?
- What departments, units or facilities are redundant?
- What are the staff requirements for the restructured departments and units?

Develop Terms of Reference and responsibilities for all the research departments and units to be supported under the reformed research institute

Develop a plan for hiring heads of the departments and research staff on a competitive/contractual basis

Design procedures to deal with redundant staff, including through re-assignment to other duties.

Develop mechanisms for public-private collaboration as well as national, regional and international collaboration

Develop mechanisms for priority setting for financing research. This priority-setting exercise should include stakeholder involvement.

ABNI agreed to accomplish these activities in about seven months and would need technical assistance of about two staff weeks, especially in developing TORs for new entities, developing public/private sector collaboration and in setting priorities.

IV. Modernization of Research Infrastructure

Develop details for building and laboratory rehabilitation, including design and costs within the available financing.

Identify field, laboratory and communication equipment required; develop their specifications and a phased procurement plan.
ABNI agreed to develop a modernization plan within about ten months and would require technical assistance of about two staffweeks in identifying specific laboratory needs and specification development.

V. Human Resources Development

Review and update the Staff Operational Manual. Undertake a core function and a skill-gap analysis, and develop a staffing and training plan. Develop Terms of Reference for each category of research and support staff. Improve merit-based staff incentives and policies to attract and retain qualified personnel. Develop a system for annual performance evaluation of scientists and research units. Develop policy for re-deploying or retiring redundant staff.

The institute agreed to design a new HR policy in about six months.

VI. Monitoring and Evaluation

Develop a Monitoring and Evaluation plan, procedures and capacity. This should include arrangements for regular evaluation of the research departments, research units and research projects with a focus on their outputs and performance, and providing opportunities for beneficiary impact and assessment. ABNI agreed to design a monitoring and evaluation plan and procedures in about five months. Technical assistance of about one staffweek would be required.

VII. Funding

Formulate financial management and administration procedures clearly separating research and development/commercial activities. Ensure adequate funding for each approved research project during implementation. Ensure core budget funding including for salaries for each research institute. Ensure adequate funding for overall operating costs of the restructuring research institute. Identify ways to increase private sector and beneficiary support for research. Provide incentives for securing international and national competitive grants for research and collaboration with relevant national and international research centers.

The institute agreed to develop and implement the funding-related activities in about eight months. About two months of TA would be needed especially in designing transparent financial management systems and to determine how to increase private sector and beneficiary support.

General Director of the Institute,

Dr. biol. Doina Valentina Groşu
Annex 5: Project Costs

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

<table>
<thead>
<tr>
<th>Project Cost by Component/Activity</th>
<th>Local EUR million</th>
<th>Foreign EUR million</th>
<th>Total EUR million</th>
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<tr>
<td>Component 1 – Strengthening the Veterinary and Food Safety Authority and Phyto-sanitary Units</td>
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<tr>
<td>- Institutional Capacity Building ANSVSA</td>
<td>0.83</td>
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<td>1.99</td>
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<td>- National Reference Laboratories</td>
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<td>3.32</td>
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<td>- Regional Laboratories</td>
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<td>- Border Inspection Posts</td>
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<td>- Animal Welfare</td>
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<td>- Phyto-sanitary Laboratories</td>
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<td>Component 2 – Support for Agricultural Research</td>
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<td>- Laboratory Services for Priority Programs</td>
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<td>- Reform program</td>
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<td>- Mainstreaming CGS</td>
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<td>sub-total component 2</td>
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<td>Component 3 – Support for Advisory and Information Systems</td>
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<td>- Training and Information Center</td>
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<td>- Advisory System</td>
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<td>sub-total component 3</td>
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<td>Component 4 – Project Management Unit</td>
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<td>Physical Contingencies</td>
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<td>Price Contingencies</td>
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<td>Total Financing Required</td>
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</table>

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Annex 6: Implementation Arrangements

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

Overview

The project has selected hybrid implementation arrangements whereby implementation of project activities would be shared between various national ministries/agencies as well as a Project Management Unit. The Food Safety Component would be implemented mainly by ANSVSA’s own departments. The MAFRD would be responsible for implementing the remaining project activities. For this, it will establish a Project Management Unit (PMU) that would have overall management responsibility for the project. The PMU will contract technical specialists for each component and would closely monitor and facilitate implementation by the different national implementing agencies. In the case of the advisory and information component, the training sub-component establishing a training and information center and conducting regular training would be implemented by the PMU who would contract Bucharest University and three regional universities to carry out the work. The advisory component would be implemented by ANCA. For the research component, the Research Institutes would implement the sub-components for laboratories and reform, while the mainstreaming of the CGS grants would be implemented by MAFRD. The reform program for research would be overseen by an Advisory Board comprising representatives of MAFRD, ASAS, and PMU.

With regard to the flow of funds, the Ministry of Public Finance (MOPF) would conclude two subsidiary agreements, one with ANSVSA for the animal product food safety activities of Component 1, and one with MAFRD for all the other components. The Bank loan will be disbursed by direct payments to the ANSVSA for Component 1 and the MAFRD for all the other components. The local contribution, either from the Government, or the beneficiaries’ own contributions, will be made available via Treasury project accounts, or in-kind contributions if applicable. Counterpart Government contributions payments will be made from separate Treasury project accounts. Beneficiaries’ contributions represent payments made directly by the beneficiaries for the purposes of the project and in-kind contributions. A detailed flow of funds for each component and sub-components is described in Annex 7.

Implementation Roles and Responsibilities

The National Authority for Sanitary, Veterinary and Food Safety (ANSVSA), will be responsible for implementation of Component 1 for food safety. In the case of activities relating to live animals and products of animal origin, the Ministry of Public Finance (MOPF) would provide the funds to ANSVSA under a subsidiary loan agreement. ANSVSA’s relevant departments would implement the strengthening of the National Reference Laboratories.4

4 GVD has three laboratories at national level; the Institute for Diagnosis and Animal Health (IDAH); the Institute for Veterinary Hygiene and Public Health (IVHPH); and the Institute for Biologic Products and Veterinary Medicines Control (IBPVMC), and will add a fourth for animal feeding stuffs analysis. The EU has already provided investment support at the level of the National Reference Laboratories to IDAH (some 10 million Euros) and to IVHPH for equipment. IDAH is now fully accredited while IVHPH is only partly so because some of its laboratories are situated in a very old building that can not be rehabilitated.
Regional Laboratories\textsuperscript{5} and Border Inspection Posts. The training of food safety inspectors, as well as up-grading the capacity of ANSVSA's regular trainers, who come from both within the authority and outside universities, institutes and laboratories, would be contracted to the Training and Information Center (TIC) under Component 2.

Responsibility for implementing food safety legislation is spread amongst several agencies and ANSVSA's activities would be coordinated with those of Ministry of Health and Family (MHF), and the National Authority of Consumer Protection (NACP) through the Rapid Alert System to be developed under the project.

\textit{MAFRD's Phyto-sanitary Department} would be responsible for implementing the strengthening of the Phyto-sanitary central and regional laboratories as part of the Food Safety Component.

The Pasteur Institute for Animals Diagnostic and Health will be contracted by ANSVSA for implementing the animal welfare demonstrations as part of the Food Safety Component.

The five \textit{Research Institutes} (RISSA, NRDIBH, ARDI, IBNA and PSRDI) selected for project support are to become National Research Institutes under the Ministry of Agriculture, Forests and Rural Development and will be eligible for MAFRD support. The research activities of those institutes would continue to be coordinated by the Academy of Agriculture and Forestry Sciences (ASAS).

The Research Institutes meeting the criteria outlined earlier would receive technical assistance to prepare a reform program and would receive funds from the project for implementing the reform program. This would be monitored by MAFRD. The project funds will be channeled through the PMU.

\textit{CGS Technical Unit, MAFRD}: The CGS Technical Unit under MAFRD would carry out the day-to-day work of managing the CGS program under the aegis of the \textit{Agricultural Services Board (ASB)} with the assistance of the PMU. The CGS operational manual developed under ASSP was revised to bring it in line with the requirements of the mainstreamed program.

\textit{The Training and Information Center}: The training package will be contracted by the PMU and the Bucharest University, and three regional agricultural universities to provide training courses for agricultural advisory staff at all levels and their accreditation as required by EU, for food safety inspectors, for agro-processors, and for researchers. The Training and Information Center (TIC) would function under the direct supervision of a Consultative Council comprising representatives of MAFRD, National Agency for Agricultural Consulting (ANCA), ANSVSA, ASAA, the PMU, representatives of the private sector and representatives of the four universities concerned. The main responsibility of the Consultative Council will be to annually approve the training programs to be delivered in the TIC.

\textsuperscript{5} The EU has also provided some equipment for the eight Regional Laboratories and more is planned under an ongoing PHARE twinning project for animal nutrition. GVD has requested MAKIS Project assistance to complement the EU support and the requirements will be determined over the next two months.
The courses will comprise topics such as: farm management and bookkeeping, development of business plans, marketing of agro-food products, food hygiene and safety, quality standards for food products, organic agriculture, EU regulations and CAP. Initially, the contract with the selected universities will be signed for a 1-year period. Then, it will annually be extended based on the training needs assessment done by the involved institutions.

The technical assistance activities will mainly involve the initial training of lecturers. These will be contracted by the PMU, based on specific requests provided by the universities. All of them are expected to be completed by the end of the second year of the project implementation.

The design and implementation of the integrated IT system will be contracted by the PMU as a "turnkey contract" including the conceptual design of the system and the necessary hardware and software. The IT system will be the property of the MAFRD and it will be hosted by the universities selected to participate in the project. The IT system will link the universities, MAFRD, ANCA, OJCA/OLCA, ANSVSA, ASAS.

**National Agency for Agricultural Consulting:** ANCA has the mandate from MAFRD to provide advisory services. With regard to the contract extension services, ANCA will designate two of its regular staff to oversee these activities and provide strategic guidance. They would be supported by two staff employed by the PMU to handle the procurement and monitoring of contracts. They would select and contract providers of services based on: (i) the needs identified through contracted studies and as identified by the local extension system (CJCA/CLCAs); (ii) contract extension program developed by ANCA; (iii) TORs prepared by ANCA.

ANCA will also coordinate monitoring and evaluation activities aimed at providing feedback on the training and information programs to improve the working methodology. Internal evaluations will be carried out by the contracted agencies. In addition, external evaluation studies of specific programs would be carried out by independent agencies contracted by the PMU at ANCA's request.

All the activities, including the information campaigns, training programs and studies would be implemented with the participation of the private and public suppliers such as private companies, NGOs, producer associations, staff of agricultural high schools, research institutes and stations, universities and other training and information suppliers. The CJCA/CLCA will participate in the project as contracted service providers.

The activities aimed at improving the existing public advisory system will be contracted by the PMU based on the Terms of Reference and Technical Specifications provided by ANCA.

**CJCA and CLCA:** The county and community extension workers who are under the Ministry of Public Administration would receive training from the project, under the TIC training courses for extension agents. They would also benefit from contracts for service providers, either as the prime contractor or as member of a service providers’ consortium providing services in a specific area. In addition, they will benefit of the improved information flows and knowledge through the integrated IT system.
The *Project Management Unit (PMU)*, which would be formed from the ASSP-PMU, would provide for project co-ordination and administration staff, procurement, financial management, reporting, monitoring and evaluation activities for all components. The Project Director would report to the Deputy Minister, MAFRD. The PMU will, inter alia: (i) act as the overall project co-ordination body; (ii) facilitate inter-ministerial co-ordination; (iii) contract the Universities for operating the Training and Information Center.
Annex 7: Financial Management and Disbursement Arrangements

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

Financial Management

1. Summary

Country Issues.

The first Country Financial Accountability Assessment (CFAA) for Romania was finalized in December 2003 and concluded that the overall fiduciary risk associated with the public financial management and financial accountability arrangements of the Romanian Government administration is considered to be moderate, with the systems for accounting, financial reporting and internal control representing the areas with the higher risks and budgeting, cash management and external audit and Parliamentary oversight representing the lower risks.

The implications of the CFAA for the project are addressed by the following actions:
- A detailed review of the systems was performed for each implementing entity.
- Each implementing entity has a distinct project-specific accounting ledger.
- Project accounting staff has been nominated for each implementing entity.
- The format of the FMRs and financial reports agreed with both implementing entities.
- MAKIS Project financial statements audited by an independent auditor annually.

Strengths and Weaknesses

The significant strengths that will provide a basis of reliance on the project’s financial management systems include the experience of the existing project management unit currently in charge with the implementation of the Agricultural Support Services Project (P043882) with a closing date of December 31, 2005. There are no significant weaknesses.

The most recent financial management supervision of the Agricultural Support Services Project (ASSP) of June 2004 confirmed that the FM and FP ratings of the project are satisfactory.

Implementing Entities

The existing PMU established within MAFRD, currently in charge with the implementation of the ASSP would be overall responsible for the financial management of the MAKIS Project.

The PMU will implement part of the Component 1, Components 2, 3 and 4 of the Project, while ANSVSA will implement Component 1 of the Project.

A Loan Agreement will be signed by the World Bank (IBRD) and the Republic of Romania represented by the Ministry of Public Finance (MOPF). The MOPF will in turn conclude two
subsidiary loan agreements, one with ANSVSA (for Component 1) and one with MAFRD for part of the Component 1, Components 2, 3 and 4, implemented by the PMU.

Discussions are in progress on the further integration of the PMU into MAFRD. MAFRD expressed the preference to keep the existing arrangements for the time being, as it believes that this is the best use of the existing capacities, considers the PMU as an integral part of the MAFRD and thinks that currently its staff cannot take over the project from the PMU right away. There is however a phase-out approach in that the MAFRD staff will be more involved in the MAKIS than they were in the previous Bank-financed ASSP project.

**Funds Flow.**

Project funds will flow in respect of each of the sources of project financing as follows:

(i) the Bank loan, which will be replenished on transactional methods using Statements of Expenditure; and

(ii) Government counterpart contribution, via dedicated project accounts.

A Special Account will be opened at a commercial bank and on terms and conditions acceptable to the WB for the PMU to implement its components. Foreign currency amounts will be exchanged as needed in local currency (ROL), to cover eligible expenditures payments in local currency to suppliers, from the Special Account into local currency transfer accounts that will be opened at commercial banks and on terms and conditions acceptable to the WB.

Government counterpart contribution payments will be made from separate project accounts, being sub-accounts of the entities’ main budgetary accounts, and which will be used specifically for the counterpart contributions to the project. These contributions will be received monthly in accordance with normal budget procedures.

**Staffing.**

Both implementing entities are staffed as follows in terms of project financial management:

- The PMU has among its existing staff the project financial management specialist and the project accountant, both having considerable experience on Bank – financed projects;
- ANSVSA has nominated among its existing staff the project finance manager and project accountant, both having worked previously on other Bank – financed projects.

**Accounting Policies and Procedures.**

The project’s accounting books and records will be maintained on a cash basis and denominated in Romanian Lei (ROL) with the exception of the books and records in respect of the Special Accounts which will be maintained in the currency of the IBRD Loan. The PMU has in place a detailed set of accounting policies and procedures and will assist the ANSVSA in further
strengthening its own accounting procedures and internal controls. A project accounting procedures manual has been developed by the PMU and discussed with the ANSVSA.

2. Audit Arrangements

Internal Audit

The MAFRD and ANSVSA have their own internal audit departments. It is anticipated that these internal audit departments will review the project’s financial management arrangements. The internal audit departments will include in their annual work program the MAKIS project, as part of their entities’ overall activities.

External Audit.

As of the date of this report, the Borrower is in compliance with its audit covenants of existing Bank-financed projects. ASSP audited Project Financial Statements were received on time every year and the auditors issued a clean opinion, with no internal control issues mentioned in the management letters. The latest audited ASSP Financial Statements have been received on July 1, 2004, with a clean audit opinion and no management letter issues.

The project will be audited annually both by an audit firm and on terms of reference acceptable to the Bank. The terms of reference for the audit will be agreed at negotiations. The audit scope will include the project’s books and records as maintained by each implementing entity, all withdrawal applications, and the Special Accounts. The audited project financial statements together with the auditor’s opinion thereon will be provided to the Bank within six months of the end of the reporting period, being the fiscal year. The PMU will coordinate the auditing and will sign the audit contract for the entire project.

In addition, the Romanian Court of Accounts (CoA), the country’s supreme audit institution, will continue to perform ad hoc external audits of the various implementing agencies, including this project.

3. Disbursement Arrangements

Bank funds will be disbursed either as direct payments, or to one of the two Special Accounts, which will be replenished under the transactional disbursement procedures. Withdrawal applications for the replenishments of the SAs will be sent to the Bank directly by each responsible project implementing entity monthly, or when about a third of the initial deposit in the SA has been utilized, whichever comes first. All replenishments for transactions above the prior-review threshold will be fully documented. Supporting documentation for all transactions, including completion reports, goods received noted and acceptance certificates will be retained by each implementing entity and made available to the Bank during project supervision. There is no plan to move to forecast-based periodic disbursements.
4. Reporting and Monitoring

Project management-oriented Financial Monitoring Reports (FMRs) will be used for project monitoring and supervision. The PMU will produce the project’s FMRs every calendar quarter and the reports will be submitted to the Bank within 45 days after the calendar quarter-end. The FMRs will be aggregated from the reports provided to the PMU by the ANSVSA, within 30 days after the calendar quarter-end. The formats of the FMRs and financial reports have been developed and will be attached to the minutes of negotiations.

5. Information Systems

The existing information systems that it is used for the ASSP will be used for the MAKIS Project. The accounting software has been updated in order to provide accurate and timely inputs for the Financial Monitoring Reports (FMRs), in a similar manner to the existing ASSP arrangements. The MAFRD experts agreed that the software responds in the first place to the Romanian statutory requirements as well as to those of the project. The MAFRD has expressed a willingness to cooperate more with the PMU on the technical specifications and terms of reference of a new accounting software system for the MAFRD when it will upgrade its existing accounting system in 2005.

ANSVSA will use on an interim basis a copy of the above mentioned system on which it has created and will maintain project-specific accounting ledgers, until the time when its own information systems, currently under implementation, will be fully developed and tested.

6. Supervision Plan

During project implementation, the Bank will supervise the project’s financial management arrangements in two main ways: (i) review the project’s quarterly financial monitoring reports (FMRs) as well as the project’s annual audited financial statements and auditor’s management letter; and (ii) during the Bank’s supervision missions, review the project’s financial management and disbursement arrangements (including a review of a sample of withdrawal applications and movements on the Special Accounts) to ensure compliance with the Bank's financial management requirements.
Annex 8: Procurement Arrangements

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

A. General

Procurement for the proposed project would be carried out in accordance with the World Bank’s “Guidelines: Procurement Under IBRD Loans and IDA Credits” dated May 2004; and “Guidelines: Selection and Employment of Consultants by World Bank Borrowers” dated May 2004, and the provisions stipulated in the Legal Agreement. The general description of various items under different expenditure category is described below. For each contract to be financed by the Loan, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

Procurement of Works: Works procured under this project would include: civil works at two-three Border Inspection Posts, rehabilitation works, new buildings construction. The procurement will be done using the Bank’s Standard Bidding Documents (SBD) for all ICB and appropriate standard bidding documents for NCB, which shall contain draft contract and conditions of contract acceptable to the Bank.

Procurement of Goods: Goods procured under this project would include: two integrated IT systems (one for ANSVSA and its local structures and one for the Training and Information Centers), laboratory and research equipment and consumables, computers, office equipment and furniture, vehicles. The procurement will be done using Bank’s SBD for all ICB and appropriate standard bidding documents for NCB which shall contain draft contract and conditions of contract acceptable to the Bank.

Procurement of non-consulting services: No non-consulting services are foreseen in the Project.

Selection of Consultants and Training Providers: The Project will finance local and international consultants, both individual and companies, for all the four components of the project – (i) Strengthening the National Authority for Sanitary, Veterinary and Food Safety and Phy-sanitary Units, (ii) Support for Agricultural Research, (iii) Support for Advisory and Information Systems and (iv) Project Management Unit. Short lists of consultants for services estimated to cost less than $200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. The project will also provide funds for local and international training under the four project components.

Single Source Selection: Under component 1 of the Project - Strengthening the National Authority for Sanitary, Veterinary and Food Safety (ANSVA) and the Phyto-sanitary Units, the Government will contract the Pasteur Institute on a single source selection basis to carry out a
program for Animal Welfare in livestock production to demonstrate EU requirements. Towards this the project will develop a Demonstration and Training Facility. Under Component 3 - Support of Advisory and Information Systems the project would support the setting up of Training and Information Centers as centers of knowledge and information at four Agricultural and Veterinary Universities (Bucharest, Iasi, Timisoara, Cluj) to serve as a knowledge resource base, accreditation and training center for trainers in all EU directives as well as new agricultural technologies. Contracts will be signed on a single source selection basis with the Agricultural and Veterinary Universities in Bucharest, Iasi, Timisoara, Cluj. Bucharest would develop capacity mainly for EU accession related matters, while the agricultural universities at Cluj, Iasi and Timisoara, will work on agricultural technologies specific to their agro-ecological zones.

Operational Costs: The project will provide funds for covering operational costs of the PMU, ANSVSA (for the implementation of the Component 1), ANCA (for the implementation of part of the Component 3), CGS Unit of MAFRD, and of the research institutes. Operating costs to be financed by the project would be procured using the implementing agency’s administrative procedures that were reviewed and found acceptable to the Bank. Operational costs incurred by the research institutes up to $10,000 will be done by the institutes and then reimbursed from the PMU.

Training/study tours: Training and study tours will be carried out according to training plan and study tours plan that will be prepared by the agencies annually and submitted to IBRD for no-objection prior to implementation. The institutions for training and for study tours will be selected on the basis of an analysis of the most suitable program of training offered by the institutions, availability of services, period of training and reasonableness of the cost.

Others: The project will provide funds for Competitive Grant Scheme under the “Support for Agricultural Research” component according to the Operational Manual.

B. Assessment of the agency’s capacity to implement procurement

Procurement activities for the Component 1 will be mainly carried out by the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA). For all the other components and part of the Component 1 (Animal Welfare and Phyto-sanitary Laboratories) procurement activities will be carried out by Project Management Unit in MAFRD.

An assessment of the capacity of the Implementing Agencies (MAFRD and ANSVSA) to implement procurement actions for the project has been carried out by Vladislav Krasikov (ECSPS) during the period 18-19 May 2004. The assessment reviewed the organizational structure for implementing the project and the interaction between the project’s staff responsible for procurement and the Ministry’s relevant central unit for administration and finance.

Most of the issues/risks concerning the procurement component for implementation of the project have been identified and include:

1. High-risk procurement environment.
2. Frequent changes of the staff performing procurement activities under the current ASSP.
3. No experience of ANSVSA staff with WB procurement.

The corrective measures which have been agreed are:

1. The Project will follow WB Procurement Guidelines
2. The procurement staff should receive training based on regional workshops and seminars, and on ILO (Turin) regular WB procurement training sessions. For the initial period of project implementation the procurement staff will be supported by the Procurement Consultant.
3. ANSVA appointed an experienced person responsible for procurement activities under the project.
4. A procurement consultant will be selected for the initial years of the Project whose qualifications, experience and terms of reference shall be satisfactory to the Bank

The overall project risk for procurement is high.

C. Procurement Plan

The Borrower, at appraisal, developed a Procurement Plan for project implementation, which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team on August 31, 2004 and is available at Project Management Unit office. It will also be available in the Project’s database and in the Bank’s external website. The Procurement Plan will be updated in agreement with the Project Team semi-annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The contracts subject to prior review are listed in the Attachment 1 below.

D. Frequency of Procurement Supervision

In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agencies has recommended bi-annual supervision missions to visit the field to carry out post review of procurement actions.
Attachment 1

Details of the Procurement Arrangement involving international competition

1. **Goods and Works and non consulting services.**
   (a) List of contract Packages that will be procured following ICB and Direct contracting:

<table>
<thead>
<tr>
<th>Contract (Description)</th>
<th>Estimated Cost</th>
<th>Procurement Method</th>
<th>P-Q</th>
<th>Domestic Preference (yes/no)</th>
<th>Review by Bank (Prior / Post)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Civil Works</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component 1. Strengthening the Veterinary and Food Safety Agency and Phyto-sanitary Units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Rehabilitation - Constanta</td>
<td>2,752,535</td>
<td>ICB</td>
<td>N/A</td>
<td>No</td>
<td>Prior</td>
</tr>
<tr>
<td><strong>Component 3. Support for Advisory and Information Systems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GOODS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component 1. Strengthening the Veterinary and Food Safety Agency and Phyto-sanitary Units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Equipment and Software - Package 10</td>
<td>1,082,422</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td>Equipment for diagnosing pathological statuses</td>
<td>407,011</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td>Laboratory Equipment - Package 118</td>
<td>555,643</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td>Laboratory Equipment - Package 119</td>
<td>399,178</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
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<tr>
<td>Laboratory Equipment - Package 124</td>
<td>282,572</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td>Laboratory Equipment - Package 130</td>
<td>876,646</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td><strong>Component 2. Support for Agricultural Research</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Equipment - Package 74</td>
<td>1,005,455</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
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<tr>
<td>Laboratory Equipment - Package 75</td>
<td>1,531,616</td>
<td>ICB</td>
<td>N/A</td>
<td>Prior</td>
<td></td>
</tr>
<tr>
<td>Contract (Description)</td>
<td>Estimated Cost</td>
<td>Procurement Method</td>
<td>P-Q</td>
<td>Domestic Preference (yes/no)</td>
<td>Review by Bank (Prior / Post)</td>
</tr>
<tr>
<td>----------------------------------------</td>
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<td>-----</td>
<td>------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Theme 2 - Reagents, enzymes, primers, coenzymes etc.</td>
<td>311.126</td>
<td>ICB</td>
<td>N/A</td>
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<td>Prior</td>
</tr>
<tr>
<td>Component 3. Support for Advisory and Information Systems</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component 4. Project Management Unit</td>
<td></td>
<td></td>
<td>N/A</td>
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<td></td>
</tr>
<tr>
<td>Office Supplies and Operating Costs</td>
<td>716.365</td>
<td>ICB</td>
<td>N/A</td>
<td></td>
<td>Prior</td>
</tr>
<tr>
<td>Component 2. Support for Agricultural Research</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grants for Competitive Grant Scheme</td>
<td>4,836.267</td>
<td>Agreed Procedure</td>
<td>N/A</td>
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</tr>
<tr>
<td>B. Research Reform Investments - ICPA</td>
<td>3,859.799</td>
<td>Agreed Procedure</td>
<td>N/A</td>
<td></td>
<td></td>
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<tr>
<td>B. Research Reform Investments - Fundulea</td>
<td>5,833.149</td>
<td>Agreed Procedure</td>
<td>N/A</td>
<td></td>
<td></td>
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<td>B. Research Reform Investments - Brasov</td>
<td>1,958.437</td>
<td>Agreed Procedure</td>
<td>N/A</td>
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</tr>
<tr>
<td>B. Research Reform Investments - Stefanesti</td>
<td>1,821.929</td>
<td>Agreed Procedure</td>
<td>N/A</td>
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<tr>
<td>B. Research Reform Investments - Balotesti</td>
<td>1,618.657</td>
<td>Agreed Procedure</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2. Consulting Services.

(a) List of Consulting Assignments with short-list of international firms.

(b) Consultancy services estimated to cost above USD 200,000 per contract and Single Source selection of consultants (firms) will be subject to prior review by the Bank.

<table>
<thead>
<tr>
<th>Ref. No</th>
<th>Description of Assignment</th>
<th>Estimated Cost (USD 000)</th>
<th>Selection Method</th>
<th>Review by Bank (Prior / Post)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Program for Animal Welfare in livestock production to demonstrate EU requirements</td>
<td>1910.13</td>
<td>SS</td>
<td>Prior Review</td>
</tr>
<tr>
<td>2</td>
<td>Training and Information Centers as centers of knowledge and information at four Agricultural and Veterinary Universities (Bucharest, Iasi, Timisoara, Cluj)</td>
<td>788.04</td>
<td>SS</td>
<td>Prior Review</td>
</tr>
<tr>
<td>3</td>
<td>International Training</td>
<td>901.809</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Total Component 1</td>
<td>1,216.602</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Component 3. Support for Advisory and Information Systems</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>1. Local Technical Assistance</td>
<td>77.26</td>
<td>QCBS</td>
<td>Prior Review</td>
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<tr>
<td>5.2</td>
<td>2. International Technical Assistance</td>
<td>152.30</td>
<td>QCBS</td>
<td>Prior Review</td>
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<tr>
<td>5.3</td>
<td>1. IT System Design and Program (Concept &amp; Database)</td>
<td>90.00</td>
<td>QCBS</td>
<td>Prior Review</td>
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<tr>
<td>5.4</td>
<td>Information Campaigns /a</td>
<td>1,051</td>
<td>QCBS</td>
<td>Prior Review</td>
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<tr>
<td>5.5</td>
<td>Studies/Surveys /c</td>
<td>284.27</td>
<td>QCBS</td>
<td>Prior Review</td>
</tr>
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</table>
Annex 9: Economic and Financial Analysis

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

1. ECONOMIC ANALYSIS

This economic analysis follows recommendations for good practices in the World Bank and is based on experiences with similar projects in other regions. The analysis is structured as follows: (i) a brief summary of general issues for economic analysis of research and extension projects; (ii) a brief review of returns to past investments in agricultural research and extension projects; (iii) an estimation of the potential IRR for the proposed investment based on experiences with the ongoing Agricultural Support Service Project (ASSP) in Romania; and (iv) a fiscal analysis. It also includes a summary of the economic importance of agricultural production in the country to illustrate the potential benefits of investments in the national agricultural research and extension system.

A. General Issues for Economic Analysis of Research and Extension Projects

The Good Practice Note “Ex-Ante Economic Analysis in AKIS Projects – Methods and Guidelines” (Horstkotte-Wesseler et al., 2000) reviews issues for economic analysis of research and extension (R&E) projects funded by the World Bank. The note emphasizes that the calculation of a single summary measure should not be the major objective of the economic analysis of R&E because it is usually subject to a wide range of assumptions. Rather the mainstreaming of economic analysis into a process of evaluating costs and benefits for more efficient resource allocation within the R&E system should be the priority. Therefore, general support and capacity building within the national research and extension system should be undertaken to conduct on-going economic analysis for effective evaluation, priority setting and impact assessment. A large share of resources in R&E projects is allocated to institutional development. Hence, economic analysis of a whole project is not very useful and may not be warranted. Economic analysis of individual investments within the project may be more appropriate. The recommended model for evaluation is the economic surplus method (or a simplification thereof). The exact model type is determined by the activities to be financed, projected analytical capacity, and data availability.

B. Returns to Past Investments in Agricultural Research and Extension Projects

Many ex post economic analyses have shown high rates of return to investments in agricultural R&E. The most comprehensive review of literature was conducted by Alston et al. (“A Meta-Analysis of Rates of Return to Agricultural R&D, 1999). The study reviewed 294 studies (including extension) reporting 1,858 estimates of returns on investments in agricultural research and development. After eliminating extremes, the report found that the remaining 1,760 estimates indicated an average return of 73 percent per year. These results confirm the conventional view that returns on investments in agricultural research and development are relatively high. Returns averaged 88 percent on investments in research alone, 79 percent on
extension alone, and 45 percent on R&E combined. The report argues that the lower estimates for R&E combined might be because the corresponding studies captured more of the total costs of the technology innovation process. No evidence was found of declining rates of return in recent years and little consistent difference among regions. Rates of returns were similar across all research categories except for natural resource research where lower rates of return were mainly due to the longer production cycle.

There is no reason to believe that economic returns in Romania would be substantially below that level. The productivity of agricultural producers in Romania is currently extremely low. Therefore, it can be expected that returns to technology development and transfer will be significantly high in Romania.

C. Economic Importance of Agricultural Production in Romania

The agricultural sector is of significant importance for the Romanian economy. In 2002, it contributed 12 percent to the GDP and about 40 percent of the labor force was employed in the agricultural sector. There are over 4.5 million farming units with an average of 2.7 ha, dominated by subsistence farming systems. Total agricultural land is 14.8 million hectares, which is 62 percent of the total land. Although, the potential for agricultural production is high in Romania, the productivity levels are extremely low. The productivity per employed person in agriculture represents about 6% of the average level in the European Union. Land productivity measured as gross agricultural output per hectare is about 27% of the average level in the EU. In 2003, maize and potato yield levels in Romania were about 36 percent, wheat yields about 23 percent, and barley yields about 40 percent of the EU average. According to the MAFRD “Romanian Strategy for Sustainable Development of Agriculture and Food” the increase of agricultural productivity and sustainable development of rural areas in order to create a competitive sector, which meets the common market requirement in the EU, is the major objectives of the Romanian agricultural policy agenda. Therefore, the MAFRD states that significant yield and productivity increases are urgently needed until 2007 and beyond. Projected potential yield increases for wheat and maize are about 20 percent, 16 percent for barley, and 30 percent for potatoes.

In order to reach these ambitious goals, an important role has to be played by the agricultural knowledge and information systems (AKIS), which urgently needs a substantial increase in financial and technical support to be revitalized and restructured.

D. Estimation of IRR for Investments in R&E Projects in Romania

A large share of resources in the MAKIS Project is allocated to institutional development of the national agricultural research and extension system in Romania. As mentioned above, economic analysis for the whole project is not very useful in these cases and may not be warranted. Ex-ante quantification of the economic benefits of certain project components, such as institutional capacity building of ANSVA or the reform program of the selected research institutes, is difficult, if not impossible. This is mainly due to the long-run nature of the reforms, and difficulties in linking cause and effect.
Therefore, economic analysis of individual components within the project may be more appropriate. The evaluation of sub-projects under the competitive grant scheme (CGS) funded by the on-going ASSP will give a valuable estimation of the potential economic benefits of investments in the national research and extension system funded by the MAKIS project.

The adaptive research and extension sub-projects are more directly linked to economic benefits than other project investments.

The economic analysis is based on data from the M&E database implemented under the ASSP, preliminary data from sub-project progress reports, and assumptions based on the technical expertise of PMU staff and sub-project directors. Out of the total of 125 adaptive research and extension projects, 20 have been selected for evaluation. The selection was not a formally randomized selection of all projects. Rather data availability was the main criteria. However, the sample is representative of the different regions and project types, and it is not biased towards successful projects. Since most of the projects were implemented in 2002 the analysis is more of an ex-ante type. The economic analysis is carried out for a 15-year period. Incremental costs are estimated as all ASSP costs, including sub-project costs plus costs of research and extension capacity building and PMU operations. Technology adoption is assumed to follow a one-year lag period and to increase by 20 percent of potential coverage until the maximum adoption in year six. Maximum adoption is assumed to be different for the various project types. Technology spillover is based on preliminary data if available; otherwise it is assumed with spread benefits to one indirect beneficiary for every direct participant, with the lag of two years and with the same adoption pattern. In the “without project” scenario, technology adoption is assumed to begin after six years. The calculation of income increases and technology adoption rates are based on preliminary data from progress reports or project proposals.

The analysis is conservative in attributing all ASSP costs to the research and extension projects, even though the institution building (in particular of ANCA) would benefit many other extension and production programs in the country. The estimate of spillover effects (one indirect adopter for every direct adopter) is at the conservative end of the usual range (two to three indirect adopters for every direct adopter). Moreover, in the “without project” scenario it is assumed that the benefit per adopter is as high as for the participants despite the time lag of adoption.

Financial analysis A financial analysis for single projects was done to demonstrate the profitability of a project from the perspective of direct participants. Since cost recovery mechanisms would be implemented under the project in the form of beneficiary contributions, this analysis provides valuable information on the potential willingness of farmers to pay for adaptive research and advisory services in the future. In Romania farms registered as legal entities have to pay 25 percent tax on profits. Small farm income is generally not taxed.

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6 Financial analyses of individual projects have been conducted without considering the spillovers.
However, based on discussions with local experts and project directors, tax was included in the financial analysis. In the aggregated economic analysis, these tax payments were neglected.

Table 9A presents the financial analysis of an individual extension project, which focuses on organic production of vegetables. The analysis yields a project NPV of US$ 75,807 (at a 12 percent discount rate) and an IRR of 30 percent.

Table 9A: Financial Analysis of Single Extension Project

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Project Participants</th>
<th>Benefits Per Adopter (US$)</th>
<th>Total Project Costs (US$)</th>
<th>Net Project Benefits (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>430</td>
<td>0</td>
<td>49,530</td>
<td>-49,530</td>
</tr>
<tr>
<td>2</td>
<td>430</td>
<td>290</td>
<td>49,530</td>
<td>-34,450</td>
</tr>
<tr>
<td>3</td>
<td>430</td>
<td>290</td>
<td>49,530</td>
<td>-19,370</td>
</tr>
<tr>
<td>4</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>45,240</td>
</tr>
<tr>
<td>5</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>60,320</td>
</tr>
<tr>
<td>6</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>74,820</td>
</tr>
<tr>
<td>7</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>59,740</td>
</tr>
<tr>
<td>8</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>44,660</td>
</tr>
<tr>
<td>9</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>29,580</td>
</tr>
<tr>
<td>10</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>14,500</td>
</tr>
<tr>
<td>11</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>430</td>
<td>290</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>IRR</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NPV</td>
<td>75,807</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Economic 9B. shows the aggregated analysis: Table economic analysis for the 20 evaluated projects. The IRR for the aggregated projects amounts to 134 percent and the benefit-cost ratio to 8.4. These values are comparable with research and extension projects in other countries. The high IRR is not surprising considering the low levels of technology and productivity of agricultural producers in Romania. Sensitivity analyses indicate that a 50 percent reduction in benefits, or no spillover benefit beyond direct participants, lead to IRR of 74 percent.

Since agricultural support policy in Romania explicitly favors large-scale farming operations and the research and extension projects support small to medium-size farming systems, the payment of subsidies was not included in the financial analysis.
Table 9B: Economic Analysis of 20 Aggregated R&E Projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Participants</th>
<th>Total Project Cost (US$)</th>
<th>Net Incremental Benefits (US$)</th>
<th>Net Incremental Benefits with 50% Reduction in Benefits (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14126</td>
<td>782736</td>
<td>-782736</td>
<td>-782736</td>
</tr>
<tr>
<td>2</td>
<td>14126</td>
<td>782736</td>
<td>-39272</td>
<td>-411004</td>
</tr>
<tr>
<td>3</td>
<td>14126</td>
<td>782736</td>
<td>1365589</td>
<td>291427</td>
</tr>
<tr>
<td>4</td>
<td>14126</td>
<td>0</td>
<td>3447845</td>
<td>1723922</td>
</tr>
<tr>
<td>5</td>
<td>14126</td>
<td>0</td>
<td>4578670</td>
<td>2289335</td>
</tr>
<tr>
<td>6</td>
<td>14126</td>
<td>0</td>
<td>5643604</td>
<td>2821802</td>
</tr>
<tr>
<td>7</td>
<td>14126</td>
<td>0</td>
<td>5500931</td>
<td>2750466</td>
</tr>
<tr>
<td>8</td>
<td>14126</td>
<td>0</td>
<td>4136951</td>
<td>2068475</td>
</tr>
<tr>
<td>9</td>
<td>14126</td>
<td>0</td>
<td>2838207</td>
<td>1419104</td>
</tr>
<tr>
<td>10</td>
<td>14126</td>
<td>0</td>
<td>1707382</td>
<td>853691</td>
</tr>
<tr>
<td>11</td>
<td>14126</td>
<td>0</td>
<td>642448</td>
<td>321224</td>
</tr>
<tr>
<td>12</td>
<td>14126</td>
<td>0</td>
<td>41658</td>
<td>20829</td>
</tr>
<tr>
<td>13</td>
<td>14126</td>
<td>0</td>
<td>776</td>
<td>388</td>
</tr>
<tr>
<td>14</td>
<td>14126</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>14126</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IRR</td>
<td></td>
<td></td>
<td>134%</td>
<td>74%</td>
</tr>
<tr>
<td>Benefit-Cost Ratio</td>
<td></td>
<td></td>
<td>8.4</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Economic analysis for total project:** Although an estimate of the overall IRR was not attempted for the reasons stated above, a useful exercise is to compute the overall productivity gain required to pay the cost of the project. An analysis of total costs under the MAKIS project indicates that a productivity gain of only 0.06 percent of the AgGDP would lead to an IRR of 12 percent. The analysis includes the annual costs of the project, including institutional development, and assumes a time lag for initiation of benefits of 4 years with maximum benefits (i.e., 0.06% of AgGDP) after 8 years after project start. This is very small in relation to the expected productivity gains from agricultural research that have been documented in many countries of between 0.5 and 1.5 percent per year.

2. **FISCAL ANALYSIS**

**Base Analysis:** Due to the economic importance and potential of the agricultural sector in Romania, and the need to become competitive in the context of the plans for EU membership in 2007, a significant increase in public funding for agricultural research and extension is essential. For a future transformation of the rural sector, increased investments in agricultural technology are urgently needed. The MAKIS project is an important step in this direction. The preliminary results of the economic and financial analysis indicate that the investments would be economically and financially justified. However, it has to be considered that the investments may have significant fiscal impacts.
The fiscal analysis aims at assessing the likelihood that sustainable local sources of funds will be available at the end of the project to take over from funds provided under the project.

Table 9C: Base Analysis of Increase in Public Expenditures

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Public Expenditures 2002* (Euro million)</th>
<th>Project Costs 2005-2009 (Euro million)</th>
<th>Factor**</th>
<th>Incremental Public Expenditures per Year (Euro million)</th>
<th>Incremental public expenditures (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Investment Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Safety</td>
<td>11.82</td>
<td>0.53</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory Service</td>
<td>10.53</td>
<td>0.45</td>
<td>0.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>26.17</td>
<td>0.80</td>
<td>4.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Recurrent Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Safety</td>
<td>0.20</td>
<td>1.42</td>
<td>0.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory Service</td>
<td>3.17</td>
<td>1.42</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>7.69</td>
<td>1.42</td>
<td>2.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Total</td>
<td>1.10***</td>
<td></td>
<td></td>
<td>1.31</td>
<td>119</td>
</tr>
<tr>
<td>Food Safety</td>
<td>6.14</td>
<td></td>
<td></td>
<td>1.85</td>
<td>30</td>
</tr>
<tr>
<td>Advisory Service</td>
<td>5.59</td>
<td></td>
<td></td>
<td>6.40</td>
<td>115</td>
</tr>
<tr>
<td>Grand Total</td>
<td>12.83</td>
<td></td>
<td>9.55</td>
<td>74</td>
<td></td>
</tr>
</tbody>
</table>

* Public expenditures for 2002 were used, because more recent data were not available.
** To calculate a factor which reflects the proportion of the investment costs which would have to be taken over by the Government after the project ends, the investments were categorized according to maintenance and replacement versus one-off investments such as foreign technical assistance. The calculation of a factor for recurrent costs is based on the relation of the recurrent costs in the last year of the project (2009) in relation to the average annual recurrent costs of the project.
*** Due to the lack of data, the public expenditures for food safety were estimated.

The current public expenditures for food safety, advisory services, and research are compared with the projected demands on public expenditures for sustaining project activities after the completion of MAKIS. Table 9.C. illustrates that public expenditures would have to increase in real terms by 74 percent annually in 2009 and beyond after the end of the project. This increase would correspond to an increased expenditure of Euro 9.55 million per year, which are about 0.09 percent of the total Government budget in 2004 (public agricultural research expenditures are projected to increase by 115 percent or Euro 6.4 million annually, which are about 0.5 percent of the budget of the MAFRD in 2004.\(^8\)

International Comparators: Although these projections mean a significant increase in GOR commitment to food safety, research and extension, total public expenditures will still be low in comparison to international levels. For example, public expenditures for agricultural research as a percent of AgGDP would increase from 0.10 percent in 2002, to 0.22 percent of AgGDP in 2010.

\(^8\) Due to data constraints, the budget of the MAFRD in this calculation includes only the expenses for investments in agriculture. Operating costs are not included.
Public expenditures on R&D for all sectors are extremely low in Romania in comparison to international levels. A recent publication by EUROSTAT (Statistics on Science and Technology in Europe, 2003) lists the Government budget appropriations or outlays on total R&D for the EU member countries and candidate countries. The Romanian Government spent only 0.16 percent of the GDP in 2003 on R&D, which is the lowest share among these countries. The EU average in all sectors is 0.7 percent and Poland achieved 0.43 percent. These low total R&D levels in Romania are also reflected in the public expenditure for agricultural research. While the expenditures were about US$14 million in 1996, they decreased to US$ 5.08 million in 2002 (0.10 percent of the AgGDP). This is extremely low in comparison to international levels. For example, public expenditures for agricultural research in Portugal amounted to US$ 61 million in 1995 (1.4 percent of the AgGDP), in Spain to US$ 255 million in 1997 (1.1 percent of the AgGDP), and Italy US$ 353 million in 1998 (1.2 percent of the AgGDP). In average industrialized countries spent 2.6 percent of the AgGDP on agricultural research and developing countries 0.6 percent.

Cost recovery: As indicated above, the fiscal impacts of the planned investments into the national research and extension system depends also on implemented cost recovery mechanisms. Assuming full cost recovery for recurrent costs of activities related to food safety and advisory services (i.e. technical assistance and training) would reduce the increase of Government expenditures from 74 percent to 60 percent. Hence, public expenditures which would have to be taken over by the Government would decrease from Euro 9.55 million to Euro 7.73 million. The incremental public expenditures as percentage of the total Government budget would decrease from 0.09 percent to 0.07 percent.

Co-financing by beneficiaries, service providers and private companies is expected to increase in the future. In the long-term it is planned that the major provider of agricultural advisory services, National Agency for Agricultural Consulting (ANCA), will be privatized. Over time, ANCA would try to develop a program of paid services, particularly for larger commercial farmers, other commercial entities, and producer associations in order to ensure future sustainability and to prepare for future privatization. This activity requires changes to the legislative framework under which ANCA operates. The first step has been taken during the project preparation period: Government Decision 409/23.03.2004, published in the Official Journal no. 291/01.04.2004, regarding the organization and functioning of the MAFRD, in art. 16(2) foresees that starting in January 1, 2005, ANCA will be funded both from the state budget but also from its own income. The main mechanisms for cost recovery will be to progressively introduce charges for publications, training courses, and services that assist farmers to prepare grant proposals and credit applications. The universities which will function as training and information centers are expected to move to a charge-back system under which they would recover the costs of the training courses. Under the CGS of the MAKIS project, the research entities (i.e. research institutes and private companies) are obliged to contribute 20% to the sub-project costs.

Access to other funds: The reform will increase the capacity of the institutes to expand research programs and to successfully apply for competitive funds, such as the national CGS and funds from the EU Framework Programs. In the past, the fund allocation of Romanian research institutes from EU funds has been extremely low (data from 2000 show that the overall Romanian R&D system has submitted only 16 proposals (per million inhabitants), of which 3
were successful. Compared to 81:21 in Hungary and an EU average of 116:53). Better access to EU funds would be facilitated through the "Romanian Agricultural Research-European Research Area Linkage Unit", which would be established under the MAKIS project, and which would train Romanian researchers in identifying funding opportunities internationally and in competitive grant proposal application.

**Tax revenue recovery:** Another means to recover Government expenditures is through tax revenues. Table 9.D. illustrates the levels of agricultural GDP growth rates needed to cover the increased Government expenditures through tax revenues. As mentioned above, farms registered as legal entities are subject to 25 percent tax on profits. It has to be considered that agricultural GDP growth accounts for incremental returns to land, labor, and capital, whereas incremental profits account for returns to land and labor only. Total incremental public expenditures include MAKIS project costs, the Government expenditures needed to sustain project activities and incremental subsidies. The analysis assumes a time lag for initiation of benefits of 4 years with maximum benefits after 8 years of project start. Assuming that the AgGDP would increase by 1 percent after 8 years due to the MAKIS project, that no cost recovery mechanisms are implemented and that the total incremental AgGDP would be taxed, would lead to an off-set of public expenditures. Due to the difference between AgGDP growth and incremental profits, more conservative scenarios concerning the level of taxed AgGDP may be more realistic. Making the same assumptions as above, public expenditures could not be fully recovered if only 50 percent of the incremental AgGDP would be subject to tax. In this case the AgGDP would have to increase by 2.5 percent with cost recovery mechanisms and about 3 percent without cost recovery mechanisms. As mentioned above, expected productivity gains from agricultural research only of between 0.5 percent and 1.5 percent of AgGDP per year have been documented in many countries. However, in the Romanian case it has to be considered that substantial economic benefits for the agricultural sector are expected from the EU accession.

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9 The incremental subsidies are calculated as a constant percentage of AgGDP. In 2002, agricultural subsidies amounted to about US$ 385 million, which are about 6.8 percent of the AgGDP.
Table 9D: Scenarios on AgGDP growth Needed to Cover Public Expenditures through Tax Revenues

<table>
<thead>
<tr>
<th>SCENARIO</th>
<th>TOTAL INCREMENTAL PUBLIC XPENDITURES MINUS TAX REVENUES (IN EURO MILLION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• AgGDP growth: 1%</td>
<td>-0.07</td>
</tr>
<tr>
<td>• No cost recovery</td>
<td></td>
</tr>
<tr>
<td>• Total incremental AgGDP taxed</td>
<td></td>
</tr>
<tr>
<td>• AgGDP growth: 1%</td>
<td>5.43</td>
</tr>
<tr>
<td>• No cost recovery</td>
<td></td>
</tr>
<tr>
<td>• 50% of total incremental AgGDP taxed</td>
<td></td>
</tr>
<tr>
<td>• AgGDP growth: 2.5%</td>
<td>1.46</td>
</tr>
<tr>
<td>• No cost recovery</td>
<td></td>
</tr>
<tr>
<td>• 50% of total incremental AgGDP taxed</td>
<td></td>
</tr>
<tr>
<td>• AgGDP growth: 2.5%</td>
<td>-0.06</td>
</tr>
<tr>
<td>• Cost recovery</td>
<td></td>
</tr>
<tr>
<td>• 50% of total incremental AgGDP taxed</td>
<td></td>
</tr>
<tr>
<td>• AgGDP growth: 3%</td>
<td>-1.36</td>
</tr>
<tr>
<td>• No cost recovery</td>
<td></td>
</tr>
<tr>
<td>• 50% of total incremental AgGDP taxed</td>
<td></td>
</tr>
</tbody>
</table>

Statistics published by EUROSTAT (Eurostat – Economic Accounts for Agriculture (EAA)) indicate that the average annual agricultural farm income for EU member states increased by about 20 percent in the period 1993-2002. In the same time period the average annual farm income in Spain and Portugal increased by 39 percent and 100 percent respectively.

The analysis reveals that significant AgGDP growth rates are needed to off-set the public expenditures through tax revenues. However, international comparisons indicate that these growth rates are achievable. Of significant importance in this context are the future modalities of agricultural taxation. Moreover, a decrease of the high level of subsidies (US$ 350 million or 6.8 percent of the AgGDP in 2002), which explicitly favor large-scale farmers, provide an additional opportunity to substantially lower public expenditures for the agricultural sector.
Annex 10: Safeguard Policy Issues

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

The project is classified an environmental category B. Accordingly, an Environmental Assessment and an Environmental Management Plan were developed. The detailed EA and EMP are on file and available upon request. A summary of the EA and EMP are provided below.

Summary of Environmental Assessment and Environmental Management Plan

1. INTRODUCTION AND BACKGROUND

The World Bank is assisting the Republic of Romania to prepare the IBRD-funded Project: Modernizing Agricultural Knowledge and Information Systems (MAKIS) with the objective to assist the Romanian Government to improve the competitiveness of farmers and agro-processors in the EU accession environment. This will be achieved through: (i) increased access of farmers and agro-processors to knowledge on technologies related to production, quality control, food safety, processing and marketing in order to meet EU standards; (ii) implementation of measures for inspection/control, risk management and communication in food safety matters; and (iii) improved linkages between agricultural research, extension, education and clients of the Romanian AKIS to the global knowledge pool. Towards this, the project comprises three components:

a) Strengthening the National Authority for Sanitary, Veterinary and Food Safety (ANSVSA) and Phyto-sanitary Units;
b) Support for Agricultural Research; and
c) Support for Advisory and Information Systems

Components (a) and (b) will undertake activities that involve construction works such as:

New building and facilities for the three Border Inspection Points, in Constanta North, Constanta South and Otopeni, specializing in veterinary checks of live animals and animal products and on phyto-sanitary control.

A new building to be built for Institute for Veterinary Hygiene and Public Health (IVPH) and a laboratory facility (space to be provided within the IHVPH building and some equipment) for analysis of animal feeding stuffs to be established.

Rehabilitation of the interior of the Prahova regional laboratory.

Demonstration and Training Facility for Animal Welfare which will include facility rehabilitation and supplementary equipment for setting up the National Center for Animal Welfare and establishing a Training Base for Animal Welfare.
Rehabilitation, extension and equipping of an existing building for Research Institute for Soil Science and Agro-chemistry located in Bucharest.

The constructed buildings will include laboratories and the related activity/processes will possibly result in hazardous waste whose disposal may require incineration. Housing of live animals over a short time period but frequently will be part of activity in BIPs.

Within component a), the WB Project will also support (i) the provision of essential equipment in 3 regional laboratories under ANSVSA, (ii) the upgrading, additional laboratory equipment for the Central Laboratory for Phytosanitary Quarantine and the Central Laboratory for Pesticides Residues Control for Plants and Plant Products, (iii) additional laboratory and IT equipment for some of the Regional Laboratories and (iv) IT equipment for the ANSVSA and the Phytosanitary Department within MAFRD. Laboratory operation might also have both occupational health & safety and environmental impacts that have to be identified, mitigated and monitored.

The MAKIS Project has been categorized by the World Bank as category B and in accordance with the Bank's Operational Policy 4.0 requirements, an environmental assessment (EA) is necessary. The overall objective of this EA is to ensure that the proposed investments will meet the requirements of the World Bank environmental assessment policy as described in OP/BP/GP 4.01, as well as both the Romanian laws and regulations on environmental expertise and impact assessment and the EU requirements in terms of environment protection related to infrastructure projects and to the operation of laboratories and of other facilities concerned.

2. LEGAL PROVISIONS APPLICABLE FOR EA

The national legislation is very comprehensive and fully transposes the EU directives as regards the following issues:

- Mandatory EIA process for projects with significant environmental impact and the development consent issued on the basis of the environmental agreement as legal act (MO 860/2002 of MoE and MO 1943/2002 of MoPW).

- Operating permits for existing activities issued by the involved authorities (GD 573/2002); for instance, local representatives under AVSA are the permitting authority for veterinary activities while the health & safety permit is issued by local Local Work Inspectorate (authorities under MoL) and Public Health Directorate.

- Environmental Monitoring and Control carried out both by the relevant authorities with control powers and by the activity holder/operator who has the obligation to set up its own internal monitoring system according to the requirements provided by the environmental agreement and permit (MO 541/2000 of MoE).

- Waste management: waste classification and waste and hazardous waste lists (GEO 78/2000 and GD 856/2002); regulations for landfill of waste (GD 162/2002); norms for
operation, surveillance and control of waste incineration and co-incineration process (GD 182/2002); registers on waste management activities.

- Requirements for management of waste generated from laboratories other than sanitary-veterinary laboratories (GD 162/2002); each type of waste should be collected separately, the solid non-hazardous waste might be transported to the urban landfill, the liquid hazardous waste should be neutralized and then might be discharged to the sewerage system, the solid hazardous waste should be treated if possible and then transported to the urban landfill, the solid hazardous waste that can not be treated should be incinerated.

- Regulations for management of waste generated from veterinary activity including the research, diagnosis, treatment and disease prevention activity (MO 373/2001 as amended by 483/2001 of MoA): organizing and equipping of the sanitary-veterinary laboratories, regulation on sampling, conditioning, packaging and transport of samples; health & safety rules; handling of hazardous waste and contamination prevention; collection, containment, storage and disposal of solid, liquid and radioactive waste, testing of the hazardous waste management; waste incineration; staff training. These regulation provide that:

  - The liquid and solid waste resulting from sample processing should be i) sterilized, neutralized or only collected, ii) packaged in sterile and tight closed recipients and iii) directed to one of the following compartments: a) sterilization and neutralization room; b) platform for waste temporary storage; c) incinerator.
  - Laboratory for hygiene and environmental protection within the Animal welfare department is responsible for the control of HWM on the technological flow in all departments and laboratories.
  - The control of HWM is realized through inspection, quick tests or complex laboratory tests, periodical reporting of incidents to the department top management.
  - Testing is focused on inside surfaces, wastewater from sanitary-veterinary laboratory, air pollutant emission, soil samples, ash resulting from incinerator.
  - The incineration is recommended as the most efficient final disposal method for the solid hazardous waste.
  - The liquid hazardous waste should be first decontaminated/sterilized and neutralized and only then discharged to the urban sewerage system.


  - The minimum infrastructure requires the following elements: Office with communication equipment; Social rooms consisting of changing rooms, toilets and hand washing facilities; Facilities for loading and unloading the different means of transport; Inspection facilities; Appropriate storage rooms (for storage of food, waste and dead animals); Room for (taking and) processing samples; Equipment and facilities for cleaning and disinfecting; Separate facilities for livestock (cattle, sheep/goats and pigs), horses and small animals; Specialized laboratory and the
services of an undertaking in the immediate vicinity which has the facilities and equipment to house, water, treat and, if necessary, slaughter the animals.

- The functionality of veterinary BIPs has to match the following requirements: to have access to all parts of the consignment, to keep up the hygienic status of the consignment, to not spread possible hazards into the environment, to retain consignments at the BIP if clearance need more time consuming checks and laboratory examinations, to have special laboratory equipment for disease investigation, to address the requirements of animal protection and animal welfare when living animals are transported, to address appropriately the issue of waste disposal (a rendering plant or the own incinerator).

- Requirements for activities dealing with animal by-products not for human consumption aiming to protect the public and animal health (MO 723/2003 of MoA transposes the CE Regulation 1774/2002): Animal by-products named also „materials” are classified in three categories (the imported APNHC that failed the sanitary border inspection fall in the 2nd category); Depending on the category, the materials shall be collected, transported, identified and: (a) directly disposed of as waste by incineration, (b) processed in a processing plant using appropriate processing methods strictly defined or (c) disposed of as waste by burial in a landfill approved under Directive 1999/31/EC; minimum requirements for the incineration plants; less strict requirements applicable to low-capacity incineration plants (such as those located on farms and at pet crematoria) to reflect the lower risk posed by the material treated and to avoid unnecessary transport of animal by-products.

- Laboratory certification on GLP (MO 370/2003 for laboratories with activities related to environmental protection, MO 146/2000 of MoA for sanitary-veterinary laboratories) and inspection of compliance with GPL principles and requirements (MO 117-56-248/2002 of MoI, MoH and MoA).

3. METHODOLOGICAL APPROACH FOR ENVIRONMENTAL ASSESSMENT

The environmental assessment has been carried out on the basis of all available information existing at this moment as regards the general description of the future activity during the operation phase.

The environmental assessment structure followed the same sequence for each project:

- assessment of the necessary activities during the construction phase
- description of the future activity during the operation phase
- assessment of potential environmental impact during construction and operation
- mitigation measures and assessment of the residual environmental impact

An environmental management plan (EMP) was developed consisting of a set of mitigation, monitoring, and institutional measures to be taken during project implementation in order to eliminate, offset or reduce the respective environmental or social impacts to acceptable levels.
4. ENVIRONMENTAL ASSESSMENT

4.1 Project I: Rehabilitation of existing physical infrastructure for three Border Inspection Points (airport, river, sea)

For BIPs, the need for adequate facilities should be addressed: water supply, waste water collection, treatment and discharge, solid waste collection and disposal of, heating and electricity.

Impact during construction

The BIPs construction works in open air that will consist in the usually actions such as: removal of fertile soil layer, digging for foundation, digging for new water supply and sewerage network or for connection with the such existing facilities, buildings erection, new roads, alleys and gutters. The adverse effects are: dust from digging process, exhausted gas emission and noise & vibrations from construction equipment and vehicles, disturbance of surrounding vegetation, soil pollution caused by oil and grease leakage and improper solid waste disposal. The main potential adverse environmental impact will manifest mainly by dust and noise emission and it was estimated as low in intensity and temporary.

The construction company has fill responsibility to provide all measures necessary to mitigate the environmental impact during construction phase: strict delimitation of construction area by fence and/or warning belts, sound-absorbent panels mounted around the construction area, use of dust-absorbing screens to protect vegetation, compliance with construction work regulations, setting up of waste management system, maintenance of vehicles and construction equipment in special places only.

Costs for these measures should be included in the project costs.

The indoor construction works will not result in any adverse environmental impact.

The necessary civil works do not need valuable or restrict resources in any cases.

Impact during operation

Some types of impact might manifest in all cases but others are specific for each case.

a) The human intervention on the groundwater layer might have negative effects on the water quality (primary direct impact) with consequences on human health (secondary impact). In order to offset these effects it is mandatory to provide and achieve the Sanitary Protection Zone around the water supply works and installations prior to their commissioning and to survey the water quality survey as part of the self-monitoring system.

b) The operation might also generate wastewater and all needed facilities for wastewater collection, treatment and discharge should be available and their technical parameters should ensure the environmental protection.
c) The sanitary-veterinary and phyto-sanitary inspection activity will generate hazardous and non hazardous waste in all cases. These could have adverse occupational health & safety and environmental impacts if the mitigation measures required in MO 483/2001 were not complied with. Since the incineration of such waste might be costly prohibitive, the bio-hazardous waste from laboratories should be properly collected and transported by a specialized service company to the nearest available incinerator for hazardous waste.

d) The management of the animal and vegetal by-products waste should be very carefully considered according to provisions of MO 723/2003, also in the all three cases.

Three alternatives should be taken into account for the waste that has to be disposed of only by incineration:

- construction of the own incineration facility, or
- provision of a storage facility for animal by-products and a contract with a specialized service company to transport them to an incinerator, or
- the opportunity of making functional the existing incinerators that are not used now; their compatibility with the updated legal requirements should be carefully compared; if the incinerators are aimed to be used only for animal by-products, the comparison would imply: i) the burning capacity analysis in relation with the potential waste which depends on the most critical events and, ii) the other conditions necessary for the incinerator to be approved according to art. 12 of MO 723/2003.

e) The housing of live animal at BIPs might produce unpleasant odour disturbing the travelers and the few owners of the individuals houses erected illegally in the neighborhood. The careful washing and disinfection of the pavements will offset this effect.

4.2 Project II: A) New building for Institute of Veterinary Hygiene and Public Health (IVHPH) and (B) Laboratory facility (building and some equipment) for analysis of animal feeding stuffs

The location of the project has not been defined when this EA report has been written.

The new building proposed to be constructed for IVHPH needs a functional area of about 3500 m² and should offer space for the laboratories (food micro-biology, analysis of animal feeding stuffs, food chemistry, toxicology, for residues, for radioactivity) and for other purposes (sample reception hall, sample storage room, public access, administration and IT rooms, garage, electrical and mechanical maintenance rooms, locker and shower rooms, shelter for civil protection). Also the building will include the necessary space for the feeding stuffs analysis laboratory.

Impact during construction

The adverse effects and corresponding mitigation measures are similar to those described for Project I.
Impact during operation

The IVHPH carries out its activity in laboratory departments for: food micro-biology, food chemistry, detection of different residues in food products, toxicology, detection of radioactivity in food products. The present department for analysis and control of animal feeding stuffs will operate in a separate building within the Laboratory facility for analysis of animal feeding stuffs (Project II.B).

a) The activities of IVHPH may have adverse occupational and public health effects if the mitigation measures required in MO 483/2001 were not complied with. Since the incineration of such waste might be a prohibitive method, the bio-hazardous waste from laboratories should be collected in plastic bags or enclosed containers and transported by a specialized service company to the nearest available incinerator for hazardous waste.

b) One important problem that needs to be addressed is again the management of the animal by-product waste. The waste quantity will not be as large as in the case of BIP but the design of the new buildings should still consider and compare the available alternatives as provided by the legislation in force:

- construction of an incinerator for animal by-product seems to be costly prohibitive
- sharing the incinerators purchased by the Pasteur Institute for animal by-products, providing they would be approved
- containment and storage of animal by-product waste and transport by a specialized service company to the nearest available incinerator; as no large incinerator for hazardous waste exist now in Bucharest, there should be used the incinerators available in hospitals.

c) Since the activity of Laboratory facility for analysis of animal feeding stuffs is rather comparable with the activity developed in research laboratories other than sanitary-veterinary laboratories, the solid waste generated here does not fall under the incidence of norms provided by the MO 483/2001. The only adverse health & safety and environmental effects are due to the potential hazardous and non hazardous waste generated here that should eventually be collected in plastic bags or enclosed containers and transported by a specialized service company to the nearest available incinerator for hazardous waste.

4.3 Project III Demonstration and Training Facility for Animal Welfare: Project III.A Facility rehabilitation for setting up the National Center for Animal Welfare; Project III.B Training Base for Animal Welfare.

Project III.A needs the rehabilitation of one existing building owned by Pasteur Institute in Bucharest. All construction works would be developed indoor and will not result in any adverse environmental impact.

The activity will be developed within the following already GLP compliant laboratories: Environment and micro-climate hygiene where physical-chemical, microbiological and toxicological studies will be undertaken; Stress-related para-clinic analyses dealing with enzymes and hormones, etc.; Metabolism and nutrition pathology, where biochemical and
hematological analysis will be performed; Etho-pathology, where normal and pathologic behavior studies will be undertaken; Auditing, that will provide legal and technical advice, and will perform analyses for implementing measures in case of emergency situations as concerns animal welfare.

The adverse both occupational health & safety and environmental effects are similar to those identified and described for Project II. A. The mitigation measures are also the same.

Project III.B implies only redesigning and rehabilitation of Pietroiu, Bulbucata and Boja experimental/farm facilities in a modular system in order to best apply the EU provisions as concerns the standards for the given animal species shelters and rearing systems. All these three locations are outside the Bucharest city limits but nearby. The construction works will comprise rehabilitation of: swine and poultry quarters, electricity supply system, sewerage network, wastewater treatment facility, access roads, premises and fence.

The construction works are minimal and will not result in any significant environmental impact. Noise and dust should be kept to a minimum to avoid animal stress.

The project itself will not aim to shelter animals but only to demonstrate the good design practice for animal shelters. This way, no additional environmental impacts is anticipated to occur during operation.

4.4 Project IV: Rehabilitation, extension and equipping of an existing building for Research Institute for Soil Science and Agro-chemistry

The infrastructure works will be developed in two main phases: Phase 1 which should be finalized in 2005 aims to the rehabilitation of the “Hall for Soil Models; Phase 2 is dedicated mainly to the extension of the “Hall for Soil Models” with a constructed area of about 2,300 m² for extension of laboratory activities and was thought to finish to the end of 2006; this new constructed wing will be a three stories building covering an area of about 800 m².

Works in Phase 1 are mostly indoor ones excepting the connection to the gas supply network that needs only digging, pipe settlement and dig covering. No significant adverse impact is anticipated to occur.

Works in Phase 2 implies open air construction works similar to those for Project II.A. The adverse environmental impact will manifest mainly by dust and noise emission. Although there are some sensitive receptors in the vicinity, the impact is estimated as low in intensity and temporary. Costs for the mitigation measures which the construction company is responsible for should be included in the project costs.

The analyzes performed currently within RISSA involve the use of toxic and other hazardous materials. The only adverse health & safety and environmental effects are due to the potential hazardous and non hazardous waste generated here that should be collected in plastic bags or enclosed containers and transported by a specialized service company to the nearest available incinerator for hazardous waste.
At the present, RISSA has a permit for the use of hazardous materials issued by the Local Work Inspectorate and Public Health Directorate of Bucharest.

In the future, the whole laboratory activities will answer the requirements of the Good Laboratory Practice, and will receive accreditation at the EU level. This aims to ensure the laboratory work quality, to increase the technical and economic performance and to strengthen control on HSE issues. Accreditation involves both endowment and staff training.

5. ENVIRONMENTAL MANAGEMENT PLAN

Environmental assessment has identified the potential adverse impacts of the MAKIS component projects. An overview of these effects during construction (for projects that imply civil works) and operation is presented below.

Some projects need only construction works developed indoor and no significant environmental impact is anticipated. Others imply outdoor construction works but the adverse environmental impact will manifest mainly by dust and noise emission. As the construction area is not large in any case and the time period necessary for construction purposes is short also, the impact is estimated as low in intensity and temporary. The construction company has the responsibility to take the necessary mitigation measures that mean mainly the compliance with the construction standard procedures for outdoor and indoor works. The usual inspection procedures would also be applied. Costs for these measures should be included in the project costs.

During operation, the use and handling of hazardous chemical substances and bio-hazardous materials may have adverse impacts on both human health & safety and environment. The necessary mitigation measures can be summarized as it follows:

a) An Environmental Friendly Design of the civil works necessary in each case in order to ensure the protection of soil, water and air against pollution has to be available.

b) Issues of the hazardous and bio-hazardous waste management have to be addressed as part of the each project design and of the operation program.

c) Compliance with all environmental regulations in force should be monitored

d) GLP certification should be obtained for all laboratories involved according to rules laid down by MO 146/2000 of MAFRD.

e) All laboratories using bio-hazardous materials should develop the bio-safety handbook on the basis of general requirements laid down by MO 823/2001 of MAFRD and taking into account each laboratory particularities; Annex 2 of this Report provides some guidelines in this respect.

Responsibilities for the implementation of environmental mitigation measures belong to national authorities, institutions and partners which are the beneficiaries of MAKIS project: ANSVSA, Ministry of Agriculture and Rural Development and the research institutes concerned.

Due to the insignificant or low environmental impact during construction, no specific monitoring actions are necessary other than the usual ones taken by local administration or
environmental authorities. After project implementation, the internal/self-monitoring will be carried out by each activity operator according to provisions of environmental permit. The external monitoring would be oriented mostly to the quality of surface water and groundwater in the areas involved, wastewater discharge, air pollutant emission and waste management and would be performed by environmental authorities and other authorities with legal inspection attributions.

There are not required any additional measures focused on **institutional development or staff training** other than those already included as part of each project under MAKIS components. The implementation of environmental mitigation measures as well as the project monitoring does not involve **extra costs**, other than those already included in MAKIS project.
Annex 11: Project Preparation and Supervision

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT

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Key institutions responsible for preparation of the project: MAFRD, ANSVSA, USAMV, ANCA, ASAS

Bank staff and consultants* who worked on the project included:

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<tr>
<th>Name</th>
<th>Title</th>
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<tr>
<td>Doina Petrescu</td>
<td>Task Team Leader</td>
<td>ECSSD</td>
</tr>
<tr>
<td>Jitendra Srivastava</td>
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<td>ECSSD</td>
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<tr>
<td>John Cole</td>
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<td>Jacob Kampen</td>
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<td>Meeta Sehgal</td>
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<td>David Lugg</td>
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<td>Nadia Badea</td>
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<td>Ana Maria Ihora</td>
<td>Program Assistant</td>
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<tr>
<td>Johannes Woelcke</td>
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<td>ARD</td>
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<tr>
<td>Vladislav Krasikov</td>
<td>Procurement Specialist</td>
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<tr>
<td>Bogdan Constantinescu</td>
<td>Sr. Fin. Management Specialist</td>
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<td>Blaga Djourdjin</td>
<td>Procurement Analyst</td>
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<td>Jonathan Pavluk</td>
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<td>Derek Byerlee</td>
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<td>Sharifa Kalala</td>
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Bank funds expended to date on project preparation:
1. Bank resources: US$190,000
2. Trust funds: None
3. Total: (expected) US$220,000

Estimated Approval and Supervision costs:
1. Remaining costs to approval: US$30,000
2. Estimated annual supervision cost: US$ 70,000

* Additional EU accession specialists were provided by the Republic of Romania
Annex 12: Documents in the Project File

ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT


Working Paper 2 - Food and Agriculture: The Challenges of EU Accession for Future Member States with Particular Reference to Romanian Agricultural Research, Extension and Training

Working Paper 3 - Food For Thought on How to Develop and Strengthen the Food Safety Capacity of Romania

Working Paper 4 -- Projects on Food Safety in Romania

Working Paper 5 -- Review and Assessment of the Romanian Agricultural Research System

Working Paper 6 -- Present and Perspective Activity of Research Institute for Soil Science and Agrochemistry

Working Paper 7 -- Evaluation Study Concerning the Institute of Biology and Animal Nutrition

Working Paper 8 -- Evaluation Study : The National Institute of Research and Development for Biotechnologies in Horticulture

Working Paper 9 -- Evaluation Study Concerning the Agricultural Research and Development Institute Fundulea

Working Paper 10 - Assessment Study Regarding the Establishment of a Research Center for Agricultural Genomics

Working Paper 11 - Review and Assessment of Romania's Agricultural Extension System

Working Paper 12 -- Review and Assessment of the Romanian Agricultural Education System

Working Paper 13 - Environmental Assessment and Environmental Management Plan

Working Paper 14 -- Social Assessment

Working Paper 15 -- Detailed Pasteur Institute proposal
Also available are:

(a) CGS Operational Manual

(b) Agreement to prepare detailed research reform plans for the implementation of the restructuring plans for each of the 5 research institutes.

(c) Romanian Food and Agriculture in a European Perspective (prepared by Bank for CEM)

(d) White Paper on Food Safety - Commission of the European Communities, January 2000
## Annex 13: Statement of Loans and Credits

**ROMANIA: MODERNIZING AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEMS PROJECT**

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Total: 1,253.70 0.00 0.00 20.65 39.07 771.51 193.41 4.84
### ROMANIA

STATEMENT OF IFC’s

Held and Disbursed Portfolio

In Millions of US Dollars

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<td>1996</td>
<td>Danube Fund</td>
<td>0.00</td>
<td>1.40</td>
<td>0.00</td>
<td>0.00</td>
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<td>ICMF</td>
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<td>0.00</td>
<td>12.62</td>
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<td>1998</td>
<td>Krupp Compa</td>
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<td>0.00</td>
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<td>2002/03</td>
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<td>0.53</td>
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<td>0.00</td>
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<tr>
<td>1997/98/00</td>
<td>Mobil Rom</td>
<td>0.90</td>
<td>0.00</td>
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<td>1.21</td>
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<td>0.00</td>
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<td>0.81</td>
<td>0.00</td>
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<tr>
<td>1994/98/01</td>
<td>Romlease</td>
<td>3.11</td>
<td>0.00</td>
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<td>3.11</td>
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<td></td>
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<td>Total portfolio:</td>
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<td>2.96</td>
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<th>Approvals Pending Commitment</th>
<th>Loan</th>
<th>Equity</th>
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<th>Partic.</th>
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<td>2003 Banca Comerciala</td>
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<td>0.08</td>
<td>0.00</td>
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<tr>
<td>2003 Ro-Fin Mortgage</td>
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<tr>
<td>Total pending commitment:</td>
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<td>0.08</td>
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## POVERTY and SOCIAL

<table>
<thead>
<tr>
<th>Year</th>
<th>Romania</th>
<th>Central Europe &amp; Russia</th>
<th>Lower-middle-income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>27%</td>
<td>62%</td>
<td>89%</td>
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### Key Economic Ratios and Long-Term Trends

<table>
<thead>
<tr>
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<th>1992</th>
<th>2001</th>
<th>2002</th>
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</thead>
<tbody>
<tr>
<td>GDP (US$ billions)</td>
<td>28.4</td>
<td>39.1</td>
<td>42.4</td>
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<tr>
<td>Growth of Investment and GDP (%)</td>
<td>8.1</td>
<td>15.1</td>
<td>18.8</td>
<td></td>
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<tr>
<td>Growth of exports and Imports (%)</td>
<td>-0.3</td>
<td>0.4</td>
<td>0.7</td>
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</table>

## Structure of the Economy

<table>
<thead>
<tr>
<th>Year</th>
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<th>1992</th>
<th>2001</th>
<th>2002</th>
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</thead>
<tbody>
<tr>
<td>GDP (%)</td>
<td>19.9</td>
<td>15.4</td>
<td>14.8</td>
<td>13.1</td>
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<tr>
<td>Industry</td>
<td>55.2</td>
<td>44.0</td>
<td>37.0</td>
<td>38.1</td>
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<tr>
<td>Manufacturing</td>
<td>24.9</td>
<td>36.6</td>
<td>40.1</td>
<td>48.8</td>
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<tr>
<td>Services</td>
<td>53.9</td>
<td>62.7</td>
<td>78.5</td>
<td>78.0</td>
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<tr>
<td>Private consumption</td>
<td>10.5</td>
<td>14.3</td>
<td>6.7</td>
<td>6.6</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>36.2</td>
<td>41.1</td>
<td>41.2</td>
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</tbody>
</table>

## Development diamond

- Life expectancy per capita
- Gross primary enrollment
- Access to improved water source

### Key Economic Indicators

- **GDP (US$ billions)**
  - 2002: 27.7
- **Growth of Investment and GDP (%)**
  - 2002: 18.8
- **Growth of exports and Imports (%)**
  - 2002: 0.7

### Economic Ratios

- **Trade**
  - Romania
  - Lower-middle-income
- **Domestic savings**
  - Romania
  - Lower-middle-income
- **Indebtedness**
  - Romania
  - Lower-middle-income

### Growth of Investment and GDP (%)

- **GDP**
  - 2002: -3.6
- **GDP per capita**
  - 2002: 4.9

### Growth of exports and Imports (%)

- **Exports**
  - 2002: 13.1
- **Imports**
  - 2002: 10.2
### PRICES and GOVERNMENT FINANCE

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic prices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( % change)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Consumer prices</td>
<td>210.9</td>
<td>34.5</td>
<td>22.5</td>
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<tr>
<td>Implicit GDP deflator</td>
<td>12.1</td>
<td>199.9</td>
<td>37.3</td>
<td>23.6</td>
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**Government finance**

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<th></th>
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</thead>
<tbody>
<tr>
<td>Current revenue</td>
<td>36.7</td>
<td>30.1</td>
<td>29.8</td>
<td></td>
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<tr>
<td>Current budget balance</td>
<td>-0.1</td>
<td>0.0</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Overall surplus/deficit</td>
<td>-5.3</td>
<td>-3.2</td>
<td>-2.5</td>
<td></td>
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</tbody>
</table>

### TRADE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(US$ millions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total exports (fob)</td>
<td>4,383</td>
<td>11385</td>
<td>12,876</td>
<td></td>
</tr>
<tr>
<td>Textiles</td>
<td>735</td>
<td>156</td>
<td>1782</td>
<td></td>
</tr>
<tr>
<td>Metals</td>
<td>572</td>
<td>784</td>
<td>1,814</td>
<td></td>
</tr>
<tr>
<td>Manufactures</td>
<td>2,612</td>
<td>3,522</td>
<td>9,851</td>
<td></td>
</tr>
<tr>
<td>Total imports (cif)</td>
<td>6,200</td>
<td>10,552</td>
<td>17,882</td>
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<tr>
<td>Food</td>
<td>996</td>
<td>1,207</td>
<td>1,944</td>
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</tr>
<tr>
<td>Fuel and energy</td>
<td>2,624</td>
<td>2,123</td>
<td>2,272</td>
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<tr>
<td>Capital goods</td>
<td>1,208</td>
<td>4,323</td>
<td>5,111</td>
<td></td>
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<tr>
<td>Export price index (1995=100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Import price index (1995=100)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terms of trade (1995=100)</td>
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</tbody>
</table>

### BALANCE of PAYMENTS

<table>
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<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(US$ millions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>12,354</td>
<td>5,023</td>
<td>1,518</td>
<td>2,223</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>10,494</td>
<td>6,504</td>
<td>3,922</td>
<td>8,825</td>
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<tr>
<td>Resource balance</td>
<td>1,860</td>
<td>-1,529</td>
<td>-3,084</td>
<td>-2,802</td>
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<tr>
<td>Net income</td>
<td>-851</td>
<td>-90</td>
<td>-282</td>
<td>-459</td>
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<tr>
<td>Net current transfers</td>
<td>65</td>
<td>1,431</td>
<td>1,336</td>
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<tr>
<td>Current account balance</td>
<td>1,040</td>
<td>1,506</td>
<td>2,223</td>
<td>1,525</td>
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<tr>
<td>Financing items (net)</td>
<td>-968</td>
<td>1,393</td>
<td>3,707</td>
<td>3,327</td>
</tr>
<tr>
<td>Changes in net reserves</td>
<td>-52</td>
<td>18</td>
<td>1,434</td>
<td>1,802</td>
</tr>
</tbody>
</table>

**Memo:**

- Reserves including gold (US$ millions) | 858 | 4,461 | 7,306 |
- Conversion rate (DEC, local US$) | 2.25 | 29,875.3 | 35,684.2 |

### EXTERNAL DEBT and RESOURCE FLOWS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(US$ millions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total debt outstanding and disbursed</td>
<td>10,003</td>
<td>3,272</td>
<td>11,254</td>
<td>12,301</td>
</tr>
<tr>
<td>IBRD</td>
<td>1,483</td>
<td>210</td>
<td>1,876</td>
<td>2,417</td>
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<tr>
<td>IDA</td>
<td>0</td>
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<tr>
<td>Total debt service</td>
<td>2,651</td>
<td>464</td>
<td>2,571</td>
<td>2,871</td>
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<tr>
<td>IBRD</td>
<td>2</td>
<td>204</td>
<td>84</td>
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<tr>
<td>IDA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Composition of net resource flows</td>
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<td></td>
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<tr>
<td>Official grants</td>
<td>0</td>
<td>219</td>
<td>257</td>
<td>327</td>
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<tr>
<td>Official creditors</td>
<td>378</td>
<td>1,006</td>
<td>9</td>
<td>-34</td>
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<tr>
<td>Private creditors</td>
<td>41</td>
<td>144</td>
<td>1,434</td>
<td>859</td>
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<td>Foreign direct investment</td>
<td>0</td>
<td>73</td>
<td>174</td>
<td>1,268</td>
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<td>Portfolio equity</td>
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<td>Commitments</td>
<td>197</td>
<td>500</td>
<td>160</td>
<td>384</td>
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<td>Disbursements</td>
<td>413</td>
<td>211</td>
<td>132</td>
<td>307</td>
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<td>Principal repayments</td>
<td>73</td>
<td>0</td>
<td>101</td>
<td>19</td>
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**Composition of 2002 debt (US$ millions):**

- A: IBRD
- B: IDA
- C: IMF
- D: Other multilateral
- E: Bilateral
- F: Private
- G: Short-term

**Inflation (%):**

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<tr>
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<th>2001</th>
<th>2002</th>
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<td>GDP deflator-CPI</td>
<td>-2.5</td>
<td>-2.5</td>
<td>-2.5</td>
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**Export and import levels (US$ millions):**

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<tr>
<th></th>
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<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>15,000</td>
<td>11,000</td>
<td>10,000</td>
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<td>Imports</td>
<td>5,000</td>
<td>7,000</td>
<td>8,000</td>
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**Current account balance to GDP (%):**

<table>
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<tr>
<th></th>
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<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
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<td>GDP deflator</td>
<td>-2.5</td>
<td>-2.5</td>
<td>-2.5</td>
</tr>
<tr>
<td>CH</td>
<td>0</td>
<td>0</td>
<td>0</td>
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