

Project Name	Georgia-Agricultural Research, Extension (@)... and Training (ARET) Project (GEF)
Region	Europe and Central Asia
Sector	Environmentally and Socially Sustainable Development
Project ID	GEGE64091 (GEF)
Borrower	Government of Georgia
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Environmental	Category C
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#### Country and Sector Background

Agriculture is the mainstay of the Georgian economy, accounting in 1997 for about 28% of GDP and about 55% of employment. The country produces a variety of agricultural crops, including grain crops (54%), wine (12%), and fruits (11%). Agricultural production was seriously disrupted during the civil conflict that followed independence in 1991. Since 1994, however, agricultural output has started to recover and significant progress has been made in areas of land reform and farm restructuring. Distribution of land has essentially created a smallholder, or subsistence sector, and a commercial sector. Smallholders, estimated to number 1.02 million, on average have less than 1.0 ha of garden and farmland in rural areas.

Main sector issues reflect the shift from a command economy and the problems faced by emerging private farmers who have little experience with farm management or operating in a market economy. These issues include, inter alia: cash constraints and limited access to credit; outmoded research, extension and training services ill suited to meet the needs of the emerging market economy; shortage of inputs, particularly lack of good seeds and inappropriate seed legislation; obsolete agricultural machinery and shortage of spare parts, equipment and service facilities; inadequate marketing systems and infrastructure; and degradation of surface and ground water resources and of the Black Sea, caused mostly by non-point sources of agricultural pollution.

Environmental Issues. During Soviet times, agriculture and livestock

production systems were highly intensified in Georgia to meet the needs of the FSU. Intensification resulted in the heavy use of mineral fertilizers and pesticides. The lack of conservation tillage systems and crop rotations promoted the movement of fertilizers and pesticides to rivers resulting in the pollution of the Black Sea from agricultural production systems. In addition, animal production systems were highly industrialized, resulting in large amounts of manure flowing into major water bodies and causing large scale pollution of the Black Sea. Also, Georgia's biodiversity is under threat from unsustainable agricultural practices, environmental pollution, over-exploitation of forests for commercial purposes, drainage, eutrophication of lakes and other water bodies and deforestation.

#### The Proposed Loan/Credit

##### Objectives

The overall objective of the Project is to develop an efficient and cost-effective agricultural knowledge and information system to demonstrate, disseminate and promote the adoption of appropriate technologies that increase sustainable agricultural production and reduce pollution of natural resources. In support of this objective, the Project would assist the Government of Georgia to:

- Put in place a Competitive Grant Scheme for agriculture to be used as a vehicle for funding: (i) appropriate on-farm technology acquisition, adaptation and dissemination to enable the new farmers to respond better to the challenges of a privatized economy based on market principles; and (ii) investment in practices to reduce agricultural nutrient pollution of the Black Sea.
- Develop a national strategy and Action and Implementation Plan for reforming the national agricultural knowledge system that is responsive to the needs of farmers and agro-processors.

Project Global Environmental Objectives. The Project will initiate measures aimed at improving on-farm environmental practices, which over the long-term would reduce nutrients entering the Black Sea. The Project activities, especially those relating to better manure management, including its storage and application, are linked directly to "The Black Sea Strategic Action Plan" formulated with the assistance of GEF. Through support for relatively low-cost investments, policy adjustments, changes in consumers practices and employing alternative technologies, the Project would also complement the Danube Delta Environmental Program and assist the Government in meeting its international commitments under the Bucharest Convention. An ancillary global environmental objective of the Project is to reduce greenhouse gas emissions from stored manure by promoting the use of biogas energy among rural farmers.

##### Description

The proposed 5-year project seeks to reform the Georgian agricultural knowledge system through appropriate technology acquisition, adaptation and dissemination that would respond better to the new realities and needs of the emerging private farmers and at the same time promote environmentally friendly agricultural practices to protect Georgia's surface and ground water and reduce agricultural pollution to the Black Sea.

The project will comprise three components: (i) Competitive Grant Scheme (ii) Support for Reform of the Agricultural Research, Extension and Training System; and (iii) Project Implementation Unit.

In addition, the U.K. Know How Fund will provide base cost parallel financing of US\$380,000 for adaptive research and information dissemination among farmers, agro-processors and other beneficiaries and encourage active participation of farmers, farmers' organizations and NGOs in these activities.

Component 1: Competitive Grant Scheme. The Competitive Grant Scheme (CGS) will support the following activities: (i) Adaptive Research and Technology Dissemination (IDA funding) and (ii) Support for Agricultural Practices to Reduce Environmental Pollution (GEF funding).

(i) Adaptive Research and Technology Dissemination. This will combine a program of on-farm technology acquisition, adaptation and dissemination, as well as the provision of agricultural advisory services, to tackle immediate priorities for improving on-farm productivity, profitability and long-term sustainability on private farms, both small-holder and commercial. The project will encourage the participation of farmers, farmers organizations, NGOs and other stakeholders in diagnostic surveys of farmers' needs and constraints, identification of priority activities and their implementation. These activities, to be funded under the Competitive Grant Scheme, will build national capacity and increase the competitiveness of Georgia's agricultural sector.

The terms and conditions for operating the CGS have been set out in an Operating Manual that has been approved by the Inter-Ministerial Commission (IMC) and the Bank. The CGS will be implemented by a Competitive Grant Board (CGB) which is functionally responsible to the IMC and administratively to the Ministry of Agriculture and Food. The CGB will be serviced by a full-time Secretariat that would report to the CGB and be responsible for day-to-day operations.

(ii) Support for Agricultural Practices to Reduce Environmental Pollution. The CGS will also be used to fund activities to improve Georgian surface and groundwater and reduce nutrient load of the Black Sea from point and non-point sources of pollution from agricultural practices in Georgia. Such activities, to be implemented in a pilot watershed in western Georgia, would include: (i) promotion of efficient manure management practices; (ii) conducting on-farm trials and demonstrations of improved sustainable agricultural practices, including reduced tillage, better chemical management systems, contour farming and buffer strips for water quality benefits; (iii) promotion of the use of bio-gas digesters in the villages to reduce methane emissions into the atmosphere and to provide bio-gas for cooking and other domestic use to rural families; and (iv) establishment of a watershed scale water quality monitoring program to monitor agricultural pollution of major rivers draining into the Black Sea.

Technical Assistance from U.K. Know How Fund. Details of technical assistance to be provided by United Kingdom's Know How Fund (KHF) will be discussed during the appraisal mission in September 1999. Briefly, it is envisaged that KHF will support diagnostic surveys for priority setting with full participation of farmers/beneficiaries and assist in CGS training and

promotion.

Component 2: Support for Reform of the Agricultural Knowledge System. This component will provide a combination of technical assistance, training and capacity building to produce a national strategy and Action and Implementation Plan for Reform of the Agricultural Knowledge System (US\$0.5m). A vision document - "National Strategy for Reform of the Agricultural Research, Education and Extension System" - has been prepared and approved by the Inter-Ministerial Commission set up by the President to support reform of the Georgian AKS.

It is expected that by the end of the first year of project effectiveness, the country would have developed a national strategy for reforming Georgia's agricultural knowledge system as well as a detailed plan for its implementation. If such a national strategy and action plan for its implementation are found satisfactory by the Government and agreed upon by the Bank, an amount of US\$2.0 million (IDA credit) will be made available to eligible institutions for implementing the reforms. The project will thus earmark an amount of US\$2.0 million for such implementation efforts which will include activities related to civil works and rehabilitation; procurement of laboratory and field equipment and goods; human resource streamlining; training and operational costs.

Component 3: Project Implementation Unit. The Project will support a small unit to co-ordinate project implementation and handle monitoring and evaluation of project activities (Figure 1). A Project Implementation Unit (PIU), comprising Head of PIU, Accountant and Secretary, has been established within the World Bank Projects' Coordination Unit (PCU) located in MOAF. The PIU, with the assistance of existing PCU procurement and financial staff, would provide: (i) day-to-day co-ordination of the project activities; (ii) procurement of goods and services; (iii) accounting and financial management; and (iv) monitoring and evaluation of project progress and impact. A CGS Board would approve annual work plans and budgets for each component and the PIU/PCU and CG Secretariat would execute the decision of the CGS Board. The PIU/CGS Secretariat would also house an Environmental Advisor, an Environmental Engineer, Accounts Assistant and Office Assistant to help coordinate day-to-day operations of the GEF-funded component.

#### Financing

The IDA credit in the amount of US\$7.85 million would be lent to the Government of Georgia at standard IDA terms with \_\_\_ years' maturity and a \_\_\_ year grace period. The share of the IDA credit is equivalent to 65% of total project cost. The Government of Georgia (GOG) would contribute approximately US\$1.30 million equivalent, or about 11% of total project costs. Prior to negotiations, the GOG confirmed its intentions to provide appropriate contributions that are necessary to fulfill its share in the project financing of the local currency components and ensure adequate and timely project implementation.

#### Implementation

The Project would be implemented under the aegis of the Ministry of Agriculture and Food (MOAF), with specific responsibility for overall co-ordination assigned to a Project Coordinator designated by the Minister of Agriculture and Food - the Project Coordinator has been appointed and is satisfactory to the Bank. The Inter-Ministerial involving broad participation from relevant ministries and agencies, including Ministry of

Environment, will provide overall guidance and support at the highest level . A small Project Implementation Unit (PIU), comprising Head of PIU, Accountant and Secretary, has been established within the World Bank Projects' Coordination Unit (PCU) located in MOAF. The PIU, with the assistance of existing PCU procurement and financial staff, would provide: (i) day-to-day co-ordination of the project activities; (ii) procurement of goods and services; (iii) accounting and financial management; and (iv) monitoring and evaluation of project progress and impact. A CGS Board would approve annual work plans and budgets for each component and the PIU/PCU and CG Secretariat would execute the decision of the CGS Board. The PIU/CGS Secretariat would also house an Environmental Advisor, an Environmental Engineer, Accounts Assistant and Office Assistant to help coordinate day-to-day operations of the GEF-funded component. The financial, procurement and administrative functions will be the responsibility of the PIU/PCU.

Activities under component 1 will be implemented through the Competitive Grant Scheme (CGS), to be managed by a Competitive Grant Board and Secretariat. Functionally, the Secretariat would be responsible to the Competitive Grant Board, but administratively to the PIU. Staff would be recruited on a competitive basis according to terms of reference acceptable to the Bank.

Overall policy direction and support for Component 2 -- the reform of the research, extension and training system -- would be overseen by a small committee comprising the president of the Georgian Academy of Agricultural Sciences (GAAS), the Rector of the Georgian Agrarian University (GAU) and MOAF's Project Coordinator. A manager for the component has been selected following World Bank procedures to head the Working Group which will be staffed with short-term consultants. The unit will be housed in GAAS.

#### Sustainability

The objective is to build a cost-effective and efficient institutional infrastructure for research, extension and training services and promote environmentally sustainable agricultural practices, with the participation of all stakeholders. The result should be technology adaptation and transfer programs responsive to the needs of the end-users and in which they will share the costs. The CGS has deliberately been kept to a fairly modest level of funding which could be further funded by the Government budget, other bilateral donors, or a combination of the two, by the end of the project implementation period. The program is therefore designed to be fiscally sustainable, within reasonable expectations for increases in government budget over the next few years. The parallel reform and restructuring of the agricultural research complex will result in a leaner, more efficient public sector structure. The project, through education, familiarization and demonstration of environmentally-friendly practices, strives to increase the acceptability of these practices by large number of farmers, leading to commercialization of manure management and bio-digester services.

#### Lessons Learned from Past Operations in Country/Sector

[Note: Lessons learned from completed and ongoing projects financed by the Bank and other development agencies.] Previous experience of agricultural support services aimed at developing private farming sector in other countries in the region has shown that such projects must be focused on private farmer needs, facilitate farmer participation in decision making and implementation, and have attainable objectives and targets particularly in terms of sustainability. Competitive Grant Scheme funding has proved effective in improving client orientation and the productivity of the

agricultural knowledge system as well as in reforming the supply-driven, centralized research management prevalent in many transition economies.

Key lessons learned from agricultural and environmental projects in the region include:

- The need for long-term commitment to address agriculture and environment issues through phased programs of interventions and broad-based participation;
- the need to work directly with farmers and agro-processors to encourage ownership of the initiatives;
- The high capacity of local and national Government officials for innovation and effective management;
- The importance of calculating and disseminating the benefits of improved environmental management in rural areas;
- The importance of adequate counterpart training and specialized support for project related activities, especially procurement, disbursement and supervision; and
- The benefits of catalyzing support from within for policy and environmental reforms.

#### Poverty Category

This project does not specifically target poverty.

#### Environmental Aspects

It is anticipated that since the project would contribute to a more sustainable and environmentally responsible use of agricultural resources, the overall impacts of the project will be positive. Competitive Grant Scheme-funded (CGS) activities under the environment component will be screened for their impact on the environment to ensure that there are no negative impacts or that the proposal has incorporated mitigating measures. Efficient use of farm inputs has been identified as one of the priority areas of research and extension needs of farmers and agro-processors. Some of the CGS funds would be directed to research and extension contracts to address this concern of farmers and agro-processors and would over time contribute to a reduction of nutrient runoff from the crop sector. In the livestock sector, the project is expected to support interesting and innovative research and extension proposals relating to the use of organic wastes and biodigesters. Manure management will be an important activity under the project. Demand-driven productivity-oriented farming is expected to promote the efficient and effective use of agriculture inputs. Research proposals which imply any adverse environmental effects will not be funded. In fact, because of the nature of the work likely to be funded, there should be long term environmental, welfare and health and safety benefits.

#### Program Objective Categories

The primary beneficiaries of this project are private farmers, i.e. individual producers that produce a surplus for sale, members of family associations and formal associations, agro-processors, and contractors for CGS projects. During preparation the views of a number of private farmers, agro-processors, and members of the development community are consulted to ensure that adequate mechanisms are built into the project design. Public meetings were also held to discuss the proposed project design. More formal diagnostic surveys will be carried out in selected areas as the project

proceeds. Two of the members of the Competitive Grants Board are private farmers and two other members represent farmers' organizations.

#### Project Benefits

Private farmers and agro-processors will be the main beneficiaries of the Project. Introduction of improved technologies would result in agricultural diversification, higher productivity and lower costs of production and, in turn, increase profitability and improve living standards in rural areas - the incentives needed to invest further in farms and businesses. Higher productivity and better animal nutrition, management and health will bring about improvements in product quality to meet specific market needs, including those of export markets. The types of farms benefiting will range from smallholders (around 1 ha land and part-time farmers) with small crop or livestock surpluses to sell from time to time, to larger leased farms with land ranging in size from 5 ha to about 50 ha. The establishment of CGS along with capacity building and training will help build a sustainable system capable of generating improved technologies responsive to the needs of end-users.

The country, the public at large and the global community would also benefit from the adoption of environmentally sustainable activities to be implemented under the Project. Specifically, reducing the discharge of nutrient load into the Black Sea will promote the maintenance of productive ecosystems and critical natural habitats in the freshwater, estuarine and near shore waters along the Black Sea Coast. Broad-based stakeholder participation will increase public awareness and demand-driven approaches for protecting the Black Sea. Promotion of biodigesters in the rural areas will meet the heating and cooking needs of the rural communities, will reduce felling of trees and will strengthen the global climate change objectives.

#### Project Risks

The project risks include: i) research does not develop appropriate new technologies to raise productivity and conserve the environment; ii) domestic and export markets unable to absorb increased production; iii) farmers don't have access to credit, machinery and inputs, and land; iv) farmers not sufficiently organized to develop partnerships with other farmers and the development community; v) Ministry of Finance unable to maintain core funding for the agricultural research complex and research salaries remain very low; vi) process dominated by current research structure; vii) number of grant applications insufficient to apply stringent evaluation criteria; viii) CGS is not sustainable; ix) current technology in bio-digesters does not work in Georgia; and x) new private sources of funding do not come forward. The overall risk rating for this component is 'modest'.

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Note: This is information on an evolving project. Certain activities and/or components may not be included in the final project.

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