REPUBLIC OF UZBEKISTAN

Rural Enterprise Support Project-II

And its
Additional Financing

And the Associated
GEF Sustainable Agriculture and Climate Change Mitigation Project

Revised
Environmental Management Framework
and
Environmental Guidelines
for
Project Activities

November 2011

TABLE OF CONTENTS

Annexes

ABBREVIATIONS AND ACRONYMS

AF	Additional Finance
AIS	Administration of Irrigation Systems
AMC	Administration of Main Canals
BAIS	Basin Administration of Irrigation Systems
BVO	River Basin Water Management Organization
CDW	Collector Drainage Water
CIS	Commonwealth of Independent States
EA	Environmental Assessment
EE	Energy efficiency/efficient
EIA	Environmental Impact Assessment
EMS	Environmental Monitoring Specialist
EMF	Environmental Management Framework
FS	Feasibility Study
GEF	Global Environment Facility
GEF Project	Sustainable Agriculture and Climate Change Mitigation Project
GHG	Greenhouse Gas Emissions
GWL	Groundwater level
HGME	Hydro-geological Meliorative Expedition
ICWC	Interstate Commission for Water Coordination
I&D	Irrigation and drainage
IPM	Integrated Pest Management
IWRM	Integrated Water Resources Management
MAL	Maximum Allowable Limit
MAWR	Ministry of Agriculture and Water Resources
MOM	Management, Operation and Maintenance
NGO	Non-governmental Organization
O&M	Operation and Maintenance
OP	Operation Policy (of the World Bank)
PMFI	Participating Microfinance Institution
PFI	Participating Financial Institution
PIU	Project Implementation Unit
RE	Renewable energy
SA	Social Assessment
SEE	State Ecological Expertise
TOR	Terms of Reference
USD	United States Dollar
UZS	Uzbekistan Sum
VDW	Vertical Drainage Well
WB	World Bank
WUA	Water Users' Association
RRA	Rural Restructuring Agency
RESP I	Rural Enterprise Support Project Phase I
RESP II	Rural Enterprise Support Project Phase II
RUz	Republic of Uzbekistan

1. SUMMARY AND BACKGROUND

- ***Environmental assessment – purpose***

The objective of the Environmental Management Framework (EMF) for the Rural Enterprise Support Project-II (RESP II) is to help ensure that the project proposed for World Bank financing is environmentally sound and sustainable and that the project interventions are in compliance with the requirements of the legislation of the Republic of Uzbekistan. This EMF has been updated in November 2011, so that it also applies to activities under the RESP II Additional Financing (AF) and the associated Global Environment Facility (GEF) project "Sustainable Agriculture and Climate Change Mitigation." (GEF Project)

RESP II has been rated in the environmental screening category "B" and has been subject to a field-based environmental review by the preparation team. The Project involves investment in Rehabilitation of Irrigation and Drainage (I&D) Systems, Rural Finance, and Rural Training and Advisory Services in a set of administrative districts of Uzbekistan. It is a requirement of the Bank and Uzbekistan legislation that for a B category project, all project components should be verified that they are in compliance with the Uzbekistan environmental laws and regulations and are consistent with World Bank policy (OP 4.01) and procedures on environmental assessment. As in the case of economic, financial, institutional and engineering analysis, Environmental Assessment is a part of project preparation. The Environmental Management Framework provides the framework to address environmental considerations of activities financed under the RESP II. This EMF defines and assesses overall project-level environmental impacts, provides a framework for EA of I&D sub-projects, and provides a screening and mitigation approach for credit line investments.

- ***The Project***

The original project scales up the Rural Enterprise Support Project Phase I (RESP I) and adheres to that project's main objectives of increasing the productivity and sustainability of agriculture and agribusinesses in project areas. This will be achieved by directly supporting the newly independent farmers in regions of the country, who did not benefit from the first project. The AF will provide additional funding for the RESP II credit line, and will fund the same types of sub-loans as the original project. The GEF Project will support the introduction of renewable energy and energy efficiency technologies, and more sustainable irrigated land use practices.

- ***RESP II Project components***

The project is financing by an IDA concessional Credit. The amount of the Credit is $67,9 million. The AF would provide approximately $40 million for continuation and expansion of the Rural Finance credit line. The project would comprise the following four components:

Component A: ***Rural Finance.*** This component will have the objective of facilitating access to credit to the newly independent farmers which originated from the Shirkat reform.

The component will finance a credit line for Participating Financial Institutions (PFI – commercial banks, leasing companies and microfinance institutions) to on-lend to farmers and rural business related to farming (including but not limited to provision of farming services such as farm mechanization, storage and distribution facilities, financing of agricultural inputs and investments in tree-crops). The component will also finance leasing transactions, to allow access too much needed financing for rural businesses with collateral constraints. A complementary training program to the PFIs will be provided, to upgrade their skills in agricultural investment project appraisal. The AF would provide approximately $40 million for continuation and expansion of the Rural Finance credit line.

Component B*: Rehabilitation of Irrigation and Drainage Systems.* This component will cover investments for (i) inter-farm and on-farm works (leveraged by the Land Degradation demonstration grant from GEF); (ii) support to Water User Associations, including equipment, material, and training for the maintenance of on-farm canals and drainage; and demonstration plots. This component will be implemented in seven districts which were selected according to the needs for rehabilitation of I&D works.

Component C: *Rural Training and Advisory Services.* This component has two objectives: (i) help potential borrowers to develop business plans in order to increase their business and financial skills, thereby reducing the risks that the final borrowers will face difficulties in repaying the sub-loans (thus reducing potential defaults); (ii) provide advisory services and training to the newly independent farmers in various topics such as legal, accounting, business, technical aspects including agronomy, water management, pesticide handling, IPM, etc.

Component D: ***Project Management.*** The component will cover the overall coordination of project activities including fiduciary aspects of project management and monitoring and evaluation. The project will be managed by the Rural Restructuring Agency, an institution which significantly developed its capacity during the Rural Enterprises Development Project.

- ***GEF Project***

The GEF Project will be financed by a GEF grant in the amount of $12.7 million. The project would comprise the following three components:

Component A: *Investments for sustainable technologies.* Activities under this component would aim at introducing renewable energy and energy efficiency technologies in small and medium size (SME) agribusinesses and on small and large farms. Examples of renewable energy technologies could include bio-gas digestors solar (photovoltaics, solar thermal, concentrating solar power), biomass (using cotton stalks and/or sorghum), wind and micro-hydroelectric installations. It is envisioned that the grants would cover 50% of the costs, with the beneficiaries providing the remaining funds. The beneficiaries could apply to the credit line under Component 1 of the baseline project for their portion of the co-financing. This would improve the environmental sustainability of the sub-projects financed under the credit line, and provide needed portfolio diversification under RESP II.

Component B: ***Irrigated land degradation mitigation.*** This component would support technologies and management approaches for controlling and reversing irrigated land degradation. This could include introduction, testing and demonstration of the integrated low-cost, low-risk water and land management technologies, such as drip irrigation, salinity mitigation of marginal land, water re-use, soil quality enhancement, pumping for groundwater extraction, alternative cropping, and other techniques or practices to increase water use efficiency and agricultural productivity. These activities would be targeted to the rayons participating in the Irrigation and Drainage Component of RESP II, which are receiving funds and technical assistance to repair and upgrade irrigation infrastructure.

Component C: ***Project technical support and advisory services.*** Activities under this component would support key capacity development and analytical services needed to introduce and scale up adoption of renewable energy, energy efficiency and land degradation mitigation technologies and practices. The GEF Project would also support advisory services for analysis and development of the legal and regulatory framework to support broader adoption of renewable energy technologies. These activities would complement the Rural Training and Advisory Services Component of RESP II, and strengthen environmental oversight and impact of RESP II.

- ***Project Area***

The RESP II Irrigation and Drainage component will concentrate on a set of seven administrative districts, while other project activities, including the Rural Finance component, will cover a much larger area in seven provinces The AF and the GEF Project will operate in the same oblasts (provinces) and rayons (districts) as RESP II:

Component A: Rural Finance and C: Rural Advisory Services (Project Provinces)	Component B: Rehabilitation of I&D Systems (Project Districts)
Andijan	Ulugnar
Bukhara	Alat
Kashkadarya	Mirishkor
Samarqand	Pasdargom
Sirdarya	Bayavut
Tashkent	Buka
Ferghana	Yazyavan

- ***Project Environmental Aspects***

The project will benefit from the institutional capacity developed under RESP I which stressed awareness of safeguard policies. The project's information and advisory service activities will continue to promote the adoption of improved and environmentally sound technologies, provide training and advice on integrated pest management techniques as well as on improved use and handling of fertilizer and agro-chemicals. A large number of trainings were provided during RESP I to all project beneficiaries including borrowers from the line of credit under Rural Finance, RBAS and ASC Development components of RESP I. It is planned to continue this

practice under RESP II. The GEF Project Component C (technical support and advisory services) would expand advisory services, training and information dissemination related to renewable energy, energy efficiency and land degradation mitigation technologies and practices, and would also support advisory services for analysis and development of the related legal and regulatory framework

Rehabilitation and small-scale construction works on irrigation and drainage networks, as in RESP II, usually cause little environmental impact, however these still demand special precautions. The GEF Project Component B (irrigated land degradation mitigation) would focus on the same rayons as RESP II , and be designed to enhance the positive environmental impact of the RESP II I&D Component.

The Rural Finance activities related to Participating Financial Institutions (PFIs) will deal with medium-to-small loans which are expected to be used for agricultural inputs and implements, equipment and trading activities with a minimal environmental impact. The project will not finance pesticides. Members of PFIs involved in lending will also be provided with training on the potential environmental impact of sub-projects and on mitigation measures. The most common end-uses of loans under RESP-I have been for provision of farming services such as farm mechanization, storage and distribution facilities, financing of agricultural inputs and investments in tree-crops. These activities are closely linked to Rural Advisory Service activities and borrowers will therefore receive some guidance on their usage.

The participating financial institutions (PFIs) for RESP-II are the commercial banks and leasing companies for the mid-size credit line and leasing services.

The AF would extend and expand the Rural Finance component of RESP II, and would provide co-financing of renewable energy and energy efficiency technologies together with the GEF Project. The GEF Project Component A (investments in sustainable technologies) would support investments in renewable energy and energy efficiency for farmers and agribusinesses. This will improve the environmental sustainability of the sub-projects financed under the credit line, and contribute to Uzbekistan's efforts to address climate change adaptation and mitigation.

- ***Agriculture related Environmental Issues***

Uzbekistan has a number of environmental issues that should be addressed and many of these are either directly or indirectly related to agriculture and as such are relevant to this Project, the AF and the GEF Project. A number of environmental problems are as a result of past and current agricultural activities and as such the Project must take care to not exacerbate the situation, but also to promote activities that will be environmentally enhancing, to overcome some of these past mistakes.

Over 60% of the irrigated area of 4 million ha is classed as salt affected, while some 30% is classed as having moderately or highly saline land. Soil salinization is worsening because main drainage systems are poorly maintained and an increasing percentage of the on-farm drainage systems is out of operation and difficult to rehabilitate. The rapid increase in river salinization which was observed before 1990 has come to a halt because drainage systems are becoming increasingly less effective in removing salts from the irrigated areas

Agricultural and rural enterprises can also indirectly result in negative environmental effects. The issues are listed below, with causes, in no particular order of importance:

- Groundwater pollution – chemicals including agricultural
- Surface water pollution – chemicals including agricultural
- Water losses – irrigation systems
- Soil salinization and alkalination – irrigation systems
- Water logging – irrigation systems (drainage)
- Biodiversity losses (including pressure on relatives of domestic crops, fruit trees and medicinal plants) – grazing and deforestation
- Soil erosion – overgrazing and irrigation systems
- Soil fertility losses – cultivation practices
- Land contamination – chemicals including agricultural, industrial wastes
- Environmental health and hazards – food contamination and exposure to pollutants

In addition to these issues there are others related to agro-processing and other agribusiness enterprises, major concerns relate to effluent discharges and their impact on water quality, water use, disturbance of significant sites for biodiversity and cultural protection, and general health and safety issues. A specific concern is the introduction of alien species and their effect on biodiversity, especially endemic species.

Environmental and safeguard issues are foreseen mainly with respect to rehabilitation of I&D systems, as well as investment in small and medium agro-processing enterprises likely to be financed under the project through credit lines from PFIs.

Environmental damage from rehabilitation of I&D systems should be controlled, mainly with regard to:

- Pollution of ground and surface waters through dumping of fuel, oil and lubricates;
- Health of workers and the local population connected with construction and transport and operation of machinery;
- Handling of waste formed at construction sites, and resulting from cleaning and rehabilitation of collectors and wells;
- Ecological disturbance in canals and collectors in and outside (downstream) of the Project area (elimination feeding and breeding sites of fish, birds and other animals).

Agro-processors would have potential environmental impacts from solid and liquid waste emissions, smoke, airborne particles and gaseous discharges, transport and machinery noise. These would need to be mitigated to National Standards and EMF guidelines by incorporating the necessary controls and treatment systems in the design and, during procurement, by specifying equipment and processes that meet these standards. Processors would also need to incorporate National safety measures for personnel in the vicinity of operating machinery.

The project including the AF is not expected to produce major environmental impacts. However, some investments from the loan proceeds may involve environmental issues related to, for

example, rehabilitation of I&D systems, waste management at farms, agro-enterprises, and location or site preparation for facilities or agricultural techniques. The GEF Project would not present any negative environmental impacts, but would support national and global environmental benefits by reducing greenhouse gas emissions (GHG), providing effective livestock waste management (e.g., bio-gas digesters to convert manure to clean energy and high grade fertilizer), and mitigating degraded irrigated land.

The project will screen for physical cultural resources that may be impacted during implementation, and will identify appropriate measures for avoiding or mitigating these impacts as part of the EA process. These measures may range from full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost. Physcial cultural resources are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or underwater. Their cultural interest may be at the local, provincial or national level, or within the international community.

- ***Responsibility***

During fulfillment of some project activities it is anticipated that there would be some impacts to the soil, water, flora and fauna, earth structure and social environment through discharge of solid and liquid type wastes to environment, emissions of harmful gases to atmosphere and other effects. These impacts should be mitigated on the basis of existing standards of Uzbekistan as described in the EMF. This process besides common requirements also includes additional ecological requirements to sub-projects to be formulated before funding of projects and envisages on the basis of relevant standards, control of purchase of some equipment, application of technologies and process of fulfillment of the project.

The project implementing agency will require that every loan application submitted under the Rural Finance Component, the AF, and every proposal submitted under the Irrigation and Drainage Component include an environmental assessment of the program proposed. Guidelines for such assessments will be in conformity with Bank requirements, as described in sections 5 and 6 and the annexes of this EMF.

The package containing the list of requirements for rehabilitation of I&D systems or loan applications should also include requirement for environmental assessment (EA) of ecological safety of applied sub-project. For all major activities under Rehabilitation of I&D systems component of the RESP II an Environmental Assessment and Environmental Management Plan will be provided with mitigation measures to be included in the design. Depending on the potential environmental impacts of a sub-project under the Rural Finance component, either an Environmental Review (ER), Limited Environmental Assessment (LEA) or Environmental Impact Assessment (EIA) would be carried out for each sub-loan application package.

Sub-projects financed through project credit lines must be in compliance with the environmental laws and regulations of Uzbekistan and with World Bank safeguard policies. Buildings, equipment and processes; production, storage and marketing technologies; production and

processing materials; construction sites and factories, and working environments must all comply with the relevant environmental laws.

Environmental risk management of sub-loans will be a part of sub-loan appraisal by the project's participating financial institutions. Loan officers should be able to verify that sub-loan and micro-loan applications are in compliance with Uzbekistan laws and regulations and will not cause enduring harm to the Uzbekistan natural environment. The RRA environmental specialist will be able to provide guidance in case of complex projects.

The proposals for investment in private-sector agri-business development under the project have the potential for environmental pollution, and systems need to be in place to ensure that all proposals adequately protect the environment. The Bank environmental guidelines require financial intermediaries to undertake environmental screening of the sub-project:

a) To screen for potential environmental problems against a checklist, and to categorize and quantify the risk against pre-determined charts.
b) To call for an environmental impact assessment for any proposal that indicates more than minimal levels of risk.
c) To screen credit applications for potential impacts on significant physical cultural resources.

It is envisaged that the loan officer (or an environmental specialist) will make decisions on environmental and safeguard compliance, providing that there are no complex environmental issues involved in the proposal.

In the case of complex environmental issues that are beyond the experience of the loan officer, the PFI will request assistance from the RRA to advise the PFIs on the scope of an environmental mitigation plan for the application to the PFI. In any case of doubt, the PFI should consult with the RRA.

2. POLICY CONTEXT

2.1 General

The AF and GEF project have not been finalized at the stage of environmental assessment although significant changes to the concept and the current description of components are not anticipated. This EA and EMF, as amended remain fully valid for RESP II.

The environmental impact of the RESP II is expected to mainly derive from the Irrigation and Drainage component and it is expected to be small, but positive. The proposed works do not include any investment in new infrastructure that would allow increased water abstraction from main sources. The project is classified as category "B" for the purpose of OP 4.01 Environmental Assessment, and project impacts will be monitored during implementation.

The challenge in conducting an EA for the Rural Finance component of the Project and the AF is that there are no location specifics for this component (the intent is that the the credit available through the Project will be available for 7 large provinces of the country covering over 60% of the territory of Uzbekistan). The other challenge for Rural Finance component is to

attempt to determine as best as possible the various activities that individual farmers and agribusinesses (including agro-processors) will wish to pursue in terms of loan proposals. As described in the following sections, a list of activities has been prepared based on previous similar studies and on discussions with stakeholders. It should be noted, however, that this list may not be comprehensive since it is difficult to predict all activities that may be proposed for financial support. At the same time the list may well contain activities that will not be pursued by potential borrowers.

2.2 The World Bank Safeguards Policy

The World Bank requires an environmental assessment of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus improve decision making (OP 4.01, January 1999). The Bank favors preventive measures over mitigatory or compensatory measures, whenever feasible.

The World Bank distinguishes different types of environmental analysis:

- Project specific EA (PSEA) to examine specific investment projects;
- Regional EA (REA) may be applied where a number of similar but significant development activities with potentially cumulative impacts are planned within a certain region or e.g. catchments area;
- Sector EA (SEA) is used for the design of sector investment programs.

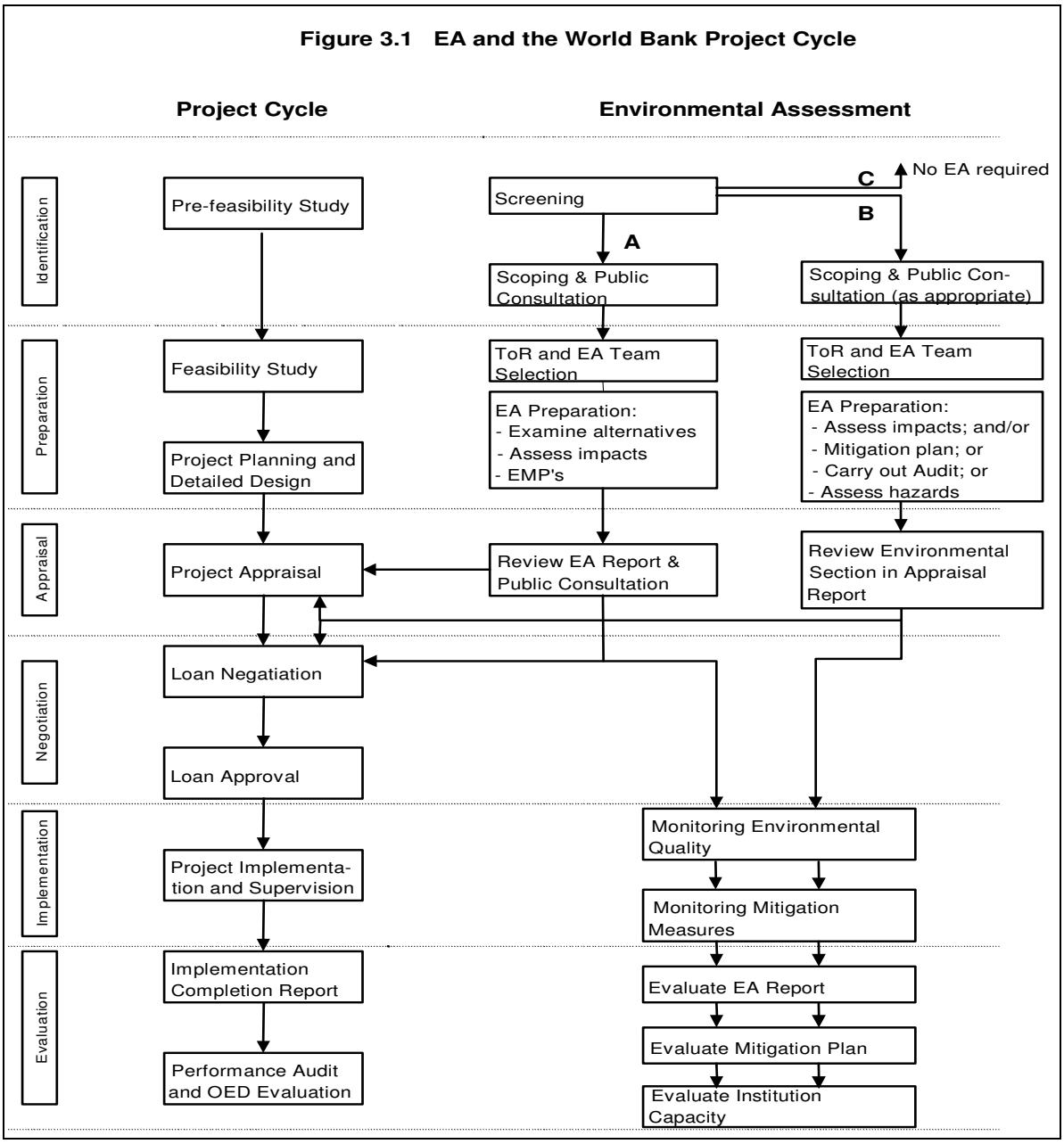
Alternatives may be applied in cases where a full EA is not needed. Alternative approaches include:

- Application of specific environmental design and/or siting criteria for small scale industries;
- Full social assessment might be required in cases where large scale or serious sociological or socio-economic impacts are expected.

The level of detail of the environmental analysis depends on the scale of the works that are proposed and the magnitude of the environmental impacts. The following categories, based on best professional judgement, are applied:

- Category A: a full EA is required in cases where significant adverse impacts are expected - large scale irrigation and drainage works are often Category A;
- Category B: although a full EA is not required, an environmental analysis should be carried out, as the project may have adverse environmental impacts (which are however expected to be less significant than under Category A);
- Category C: no EA or environmental analysis is required for projects without expected adverse environmental impacts.

Figure 1~~Figure 1~~ presents the different steps in the project cycle and shows how the various EA phases fit in the project preparation process. The main EA phases concern screening, scoping, EA, and environmental management plan during and after implementation of the project - covering mitigation, monitoring and evaluation.



- *Figure 1. Environmental Assessment and the World Bank project cycle*

In the framework of World Bank lending programs, the preparation of environmental data sheets is required for proposed projects. These sheets contain the most essential environmental information as well as the category determination.

The EA takes into account the environment (air, water and land), humans health and safety, social aspects (obligatory resettlement, residents and cultural heritage property), and trans-boundary and global ecology aspects. At the same time it takes into account all changes taken place in the project and country; results of ecological studies held over the country, plans of local ecological measures; common political framework of the country, local legislation and

institutional possibilities on ecological and social aspects; obligations of the country on international Agreements and Treaties concerning the projects activities. The Bank doesn't fund the project activities which are contrary to such country's obligations as it would be determined during the EA.

The coverage and depth of the EA process on RESP-II is determined by specific properties of proposed components. Key considerations to be taken into account during the EA process include:

Generic initial screening to determine appropriate environmental assessment;

Compliance with existing environmental regulations in Uzbekistan;

Linkages with social assessment;

Analysis of alternatives;

Public participation and consultation with affected people and organizations; and

Disclosure of information.

2.3 Environmental Assessment

The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EIA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts. The four Categories are A, B, C, and FI, and these categories are detailed in Annex 1. Under Uzbekistan Law an EA is grouped in four environmental categories (1,2,3, or 4) the first three of which are approximately equivalent to Bank environmental categories A, B and C. Uzbekistan Category 4 relates to project activities that have no or localized environmental impact, and may need some form of permit.

2.4 Project Environmental Category

According to the World Bank regulation, the Rural Enterprise Support Project is placed into EA category "B" which means that it has a limited impact on the environment. This category was selected because a credit line is included, which may result in adverse environmental impacts, and because provision is made for rehabilitation of irrigation infrastructure in particular. The project is part of a long-term program which is expected to foster more prudent use of land, particularly agricultural land and environmentally sustainable farming practices with greater sense of individual and community responsibility for the environment. The rehabilitation and improvement of irrigation and drainage system are expected to help improve water use efficiency, check the process of salinization and water logging, and help arrest the process of land degradation. The project activities to be implemented have a great importance for the promotion and recognition of ecologically sustainable management of the national resources.

2.5 Uzbekistan Environmental Legislation and Procedures

- ***State Organizations***

The State Committee for Nature Protection (*Goskompriroda*)[1] is the primary environmental regulatory agency. It reports directly to the *Oliy Majlis* (Parliament), and is responsible, at central, oblast and raion levels, for coordinating the environmental and natural resources actions of other national government bodies. The mandate of *Goskompriroda* is based on the Regulation *"On the State Environmental Committee of the Republic of Uzbekistan"* as approved by Parliament on 26 April 1996.

Goskompriroda is responsible for environmental and natural systems protection. It oversees the national system of protected areas, can initiate liability/damage actions, and administers an Environmental Fund which receives pollution fees and penalties and supports pollution mitigation measures. There are also several scientific institutes attached to the *Goskompriroda* which conduct analysis on environmental and natural resources problems and measures to address these in support of *Goskompriroda*'s work.

Goskompriroda also issues permits for pollution discharge emissions and may prohibit projects and construction works that do not comply with (international) legislation. Fees are collected at the regional level for the use of resources, for licences to discharge polluting material, and for waste disposal. Money collected from these sources enters into the nature control fund and is used for current expenditure on activities connected with environmental control. 50% of the collected funds are used at the regional level for local projects, and rest is directed to the 'republican fund for special projects'.

The structure of *Goskompriroda* takes the form of a central body in Tashkent, with regional (oblast) and local (raion) branches and agencies for scientific and technical support. Regional level organisations have the same structure as those at national level. Different departments take responsibility for environmental standards, environmental law, international relations, environmental funding, economics, publicity, and governmental ecological review.

- ***Non-Governmental Organizations***

There are other national public organizations and national charity and international foundations (NGOs) in Uzbekistan. Their activities are aimed at supporting the health of the population and environmental protection, as well as development of entrepreneurship, establishment and strengthening of cultural relations and intellectual wealth. All NGOs with a mandate for environmental protection established a national program: ECOFORUM. In June 2004 *Goskompriroda* and ECOFORUM signed a Memorandum of Understanding and Cooperation.

- ***National Environmental Policies***

The main priority for the Republic of Uzbekistan during the on-going economic reforms is to ensure reliable social guarantees and measures for social security and environmental protection[2].

---

[1] In English translations also called 'State Committee for Nature Conservation', 'State Committee for Natural Resources', 'Committee of Nature Control', etc.

[2] "Uzbekistan: Towards 21-st Century", Report about the 14-th Session of Parliament (Oliy Majlis).

Nature protection policy and the implementing measures in the areas of rational use of the natural resources and environment protection are based on the following main principles:

- Integration of economic and ecological policy aimed at conservation and restoration of the environment as the essential condition for improvement of the living standards of the population;
- Transition from protection of individual natural elements to the general and integrated protection of ecosystems;
- Responsibility of all members of society for environment protection and conservation of biodiversity.

- ***General Legislation***

Since independence Uzbekistan has established more than 100 laws, revisions of old legislation and resource management policies designed to address environmental problems and manage environmental resources. Relevant environmental laws and regulations in the framework of the present Project include:

- *"On Environmental Protection"* (1992), establishing a legal, economic and organizational framework for environment protection, ensuring sustainable development and defining principles including SEE;
- *"On Water and Water Use"* (1993), ensuring rational water use, protection of water resources, prevention and mitigation of negative impacts and compliance with national legislation;
- *"On Land Code"* (1998) provides basic norms and rules for land use and stipulates the land rights;
- *"On the Concept of National Security"* (1997), a principle framework for achieving national ecological security, etc.;
- *"On Ecological Expertise"* (2001) provides for mandatory expert assessment of impacts on the environment and human health, as well as a legal basis for conducting expert assessments.

With the support of international organizations strategies and plans of actions with relevance to the Project have been developed, including:

- National Environmental Action Program of the Republic of Uzbekistan for 1996-2010 (1999);
- National Action Program to Combat Desertification (1998);
- Mid-Term Strategy for Improving Living Standards (2003).

- ***Decrees Affecting Water Resources and Nature Protection***

Many important aspects of state management, use and protection of water resources are regulated by Decrees of the Cabinet of Ministers, such as:

- *"On approval of the Regulation of the State Environmental Expertise"* (No 491, 31.12.2001);

- *"On approval of Provision on the State Environment Monitoring"* (No 49, 3.04.2002);
- *"On rendering status of the specially protected natural territories of the republican importance to the fresh water aquifer formation zones"* (No 302, 26.08.2002);
- *"On improvement of the Hydro-Meteorological Service"* (No 183, 14.04.2004);
- *"On approval of the Provision for procedures for the cadastral division of territory of the RUz and formation of cadastral numbers for land plots, buildings and structures"* (No 492, 31.12.2001).

Relevant nature protection normative documents issued by government include:

- "Procedure for elaboration and execution of draft standards on maximum permissible emission of contaminants discharged to water bodies including drainage water" (RD 118.0027719.5-91);
- "Procedure for granting permission for special water use" (RD 118.0027714.6-92);
- "Instruction for determining of damage caused to the national economy by underground water contamination" (RD 118.0027714.47-95);
- "Temporary recommendation on control of underground water protection of the Republic of Uzbekistan". State Nature Committee and *Uzbekgidrogeologiya* of the Republic of Uzbekistan, Tashkent, 1991;
- "Procedure for elaboration and principal requirements of recommendations to use waste water for crop irrigation" (RD 118.0027714.41-94).

2.5.1 International Cooperation

- ***Transboundary Water and Energy Resource Management***

Since independence Uzbekistan has been party to bilateral and multilateral agreements and a participant in regional initiatives in the area of joint water and energy resources management in Central Asia. An important stimulus to strengthening of dialogue and cooperation amongst the Aral Sea basin countries is the signing of a number of intergovernmental agreements, such as:

- Agreement between Uzbekistan and Turkmenistan about cooperation in water management issues (Chardjev; 16 January 1996);
- Agreement between Kazakhstan, Kyrgyzstan and Uzbekistan about use of water and energy resources of the Syr Darya River Basin (Bishkek; 17 March 1998).

On 9 August 2007 the President of Uzbekistan signed a Decree *"On joining the Convention on the Protection and Use of Transboundary Water Courses and International Lakes"*, and *"On joining the Convention on the Right to Non-Navigation Use of Transboundary Water Courses"*. This decree is important for the development of integrated water management principles and environmental-friendly use of the transboundary water resources at national and regional levels.

- ***Global and Regional Agreements***

In the context of the global environment, the Republic of Uzbekistan is a Party to three Rio Conventions: the Convention on Climate Change, Convention on Biological Diversity, and

Convention to Combat Desertification, together with a number of other international Conventions, Protocols, Agreements, and Memoranda of Understanding in the areas of environmental conservation and sustainable development. Other global agreements to which Uzbekistan is party include:

- Convention on Prohibition of Military or Any Aggressive Destructive Actions to the Environment (26.05.1993);
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (22.12.1995);
- Convention on Protection of the World Cultural and Natural Heritage (22.12.1995);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (01.07.1997);
- Bonn Convention on Conservation of Migrating Species of Wild Animals (01.05.1998);
- Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (30.08.2001).

In the framework of the CIS, Uzbekistan is member of the Inter-State Ecological Council for harmonization of environmental legislation, elaboration on EA and developing economic tools for environmental protection, and has established the Inter-state Environmental Fund for financing environmental protection in inter-state and regional programs.

A good example of multi-lateral and multi-donor partnership is the Central Asian Countries Initiative for Land Management (CACILM). The objectives of this program are to combat land degradation and reduce poverty in the Central Asian countries by helping to develop a comprehensive and integrated approach to the sustainable management of land and water resources.

2.5.2 EIA Procedures

State Environmental Expertise (SEE), i.e. preparation of or the review and approval (or rejection) of developments on environmental grounds, is regulated by Decree of the Cabinet of Ministers No 491.31.12.2001: "*On approval of the Regulation of the State Environmental Expertise"*. The main responsible organization is the Main Directorate for State Ecological Expertise (*Glavgosecoexpertiza*) of *Goskompriroda*. The Regulation stipulates 4 categories for development:

- Category 1 – high risk (corresponds to World Bank category A);
- Category 2 – moderate risk (corresponds to World Bank category B);
- Category 3 – low risk (corresponds to World Bank category C);
- Category 4 – local impact (corresponds to World Bank category C).

Appendix 2 to the Regulation details the types of development that fall within each Category. Category 2 (moderate risk) includes an item "45. Reconstruction and melioration improvement of deteriorated irrigation lands with a space over 1,000 hectares", which would be applicable to the Project at hand (30,000 ha will be improved). Category 3 (low risk) includes an item "40. Reconstruction and melioration improvement of deteriorated irrigation lands with a space from 100 to 1,000 hectares".

It is understood that *Glavgosecoexpertiza* either performs the SEE itself (in which case separate funding is required) or that the directorate reviews environmental assessments that have been executed by others. It is therefore understood that the RRA is to submit the final Environmental Assessment report to *Glavgosecoexpertiza* for review and approval.

2.6 Public Involvement

Public input to the environmental review was solicited in the process of preparing this EMF:

- discussions with farmers, both small and medium sized commercial farms and with PFIs to inform them of the environmental review of the Project, and more importantly, to identify likely activities for which loans through the Project would be requested. As well, farmers were asked for opinions on important environmental issues in their communities.
- discussions with Ministry of Agriculture and Water Resources officials to determine the categories of likely farm and non-farm rural enterprises for which loans would be requested.
- The ecological aspects of the Project were discussed with the officials of the Ministry of Ecology and Natural Resources.
- A workshop will be held in March 2008 to solicit ideas on activities to be funded and the probable environmental impacts that could be expected from project activities. A summary of discussions at this round table will be provided in Annex 7. A summary of EMP will br posted in the Website of MAWR prior to public consultation workshop held on March 2008.

3. ENVIRONMENTAL ASSESSMENT

3.1 General

3.1.1 Background of RESP-1

The environmental impact of the RESP-1 mainly derived from the implementation of Irrigation and Drainage component and was expected to be small, and generally positive. Project did not finance construction of new infrastructure, which could have increased water use from main water supply systems. Components Rural Finance and Rural Advisory Services did not provide significant impact to the environment, since no hazardous substance were financed and/or supported to be used. Neverthless, project was classified as category “B” for the purpose of OP 4.01 Environmental Assessment so as to provide for monitoring the project during and after implementation. With respect to this, Environmental Assessment was conducted prior to project implementation and Environment Management Plan was developed. Summarized actions in respect to EA and EMP and rational application of EA (including stakeholders’ consultation and opening) were included into Project Implementation Plan.

Impact of Project to the Environment: Rehabilitation of inter farm and on farm irrigation and drainage system mainly provided positive impact on all the elements of the environment.

Summarized types and amount of works, including for component Rural Finance is appended below at Annex 10.

- With the result of rehabilitation of the canals, structures the canal efficiency increased, increased water supply, decreased water losses due to guaranteed and on time water delivery, which helped to save water and this lead to reduction on groundwater level as well.
- Rehabiliation of collector-drainage systems with improved drain, decreased on ground water level, decreased land salinity and decreased in minirelized ground water. Condition of soil and minerals improves and this leads to improvement of productivity of the land and hence increases production.

However, temporarily localized adverse impacts might also occure which are mainly related to construction works that requires special mitigation measures. Potential negative impacts and mitigation measures are described in the appended annex.

Potential, temporary negative environmental impacts could be the following: Pollution of soil and water tables due to leakage of fuel and oil; Health of the employees and local people, with relation to construction, transporation and exploitation of the machines and equipments; transporation of the wastes, accumulated on the working objects and from cleaning and rehabilitation of the collectors and wells; environmental disturbance on and off the canals and collectors (at the bottom flow) of command area (with removal of feeding zone and reproduction of fishes, birds and other living organisms).

Mitigation measures taken;

- Rehabiliation of the collector-drainage and canals were followed with large amount of earth works: digging, cutting, removing the earth. In order to reduce the negative impacts, special schemes for construction works were developed.
- Soil removed from the collectors-drainages networks were allocated to special zones on trypozod form by use of bulldozers. In the cases were this could not be achieved, soils were taken to the area for recultivation or special allocated zones.
- In rehabilitation of respective irrigation canals for the purpose of avoidning the possible disturbance of water supply to the irrigation fields, temporary water delivery schemes were developed or work schedule were foreseen for non-vegetation period.
- For prevention of excessive dust pollution, measure were taken by watering the earth during the works and for avoding the noise and disturbance of the surrounding households, works were conducted during the day time.
- After completion of construction works, work zone was cleaned from construction and other type of wastes and were taken to the designated places. Also, planning of the land was conducted after completion of the works.

Summary of actions taken for environment protection;

- Design and evaluation of physical works were developed in accordance with Uzbek norms and standards, requirements on nature and environment protection.

- RRA in cooperation of the engineer and design institutes have taken primary measures for alternative design and preparation of bidding documents with specifications on protection of the environment.
- Necessary environmental assessments for each proposed works were conducted and were approved by the State Committee for Nature Protection of R.Uz.
- Contructors were appointed as responsible agent for conducting rehabilitation works in accordance to environmental requirements which were foreseen in bidding docuemtns and respectively in the contracts.
- International company, who was the general project design also supervised the construction works during the period of construction.
- Project implementation unit were involved in the rehabilitation activities during the entire length of the construction works.

3.1.2 Description of RESP-II, AF and GEF Project

The potential negative environmental impacts of the proposed project are expected to derive from the Rural Finance and Irrigation and Drainage components, and are expected to be small as was the case in RESP-I. The proposed works do not include any investment in new infrastructure that would allow increased water abstraction from main sources. Project is classified as category "B" for the purpose of OP 4.01 Environmental Assessment.

It is realistic to expect that the effects of some project components will strengthen the sustainability of agriculture which combines technologies, policies, and activities aimed at integrating socioeconomic principles with environmental concerns so as to maintain or enhance farm production, reduce the risk of diminishing productivity, protect natural resources and prevent degradation of soil fertility and water quality, all with a view to be economically viable, socially acceptable and technically feasible. Hence it could be safely concluded that in implementing this project, no significant negative impacts are expected. Below table summarizes the expected main environmental impacts of the Project.

- *Table 1 Expected main environmental impacts of the Project*

Project intervention	Impact	Value
1. Rehabilitation of irrigation and drainage systems		
Rehabilitation of main and inter-farm collectors and canals	Enhancement of drainage, reducing waterlogging and salinisation	Positive
WUA development	Increasing the water-use efficiency due to improved O&M and water resources management	Positive
2. Rural Finance		
Development of processing and other agricultural businesses	Varies	Varies
3. RAS		
Training	Increased land productivity due to introduction of improved agricultural practice. Improved pest management	Positive
4. Project management and monitoring		
Design and supervision of construction, institutional strengthening, monitoring of Project	Increased sustainability of Project outputs	Positive

Project intervention	Impact	Value
impact		

3.2 Potential Benefits and Impacts –Irrigation and Drainage

The proposed project activities would finance O&M and low-cost rehabilitation works of parts of irrigation infrastructure for improving water use efficiency and check the process of salinization and water logging through improved drainage. All these works will be of minor nature, but it is expected that they will foster more efficient and prudent use of irrigation water through the restructured farms. Formation of Water User Groups is expected to instill a greater sense of individual and community responsibility and improve water distribution and application procedures, thereby reducing water losses and the rise of ground water level. The rehabilitation of the on-farm and inter-farm irrigation and drainage canals will also improve field level water use and conveyance efficiency with similar beneficial impacts on the environment through reduced water losses.

The reduction in losses and improved irrigation distribution will, besides reducing the equity amongst farmers, reduce seepage losses from canals and over-supply of irrigation, with a beneficial effect for the project area.

However potential negative impacts of the project would be:

i) environmental damage possibly caused by contractors during construction activities; and
ii) dumping of excavated sediments and other materials from rehabilitation of irrigation and drainage structures.

As far as the negative environmental impacts of the Project interventions are concerned, all options, except the re-use of collector-drainage waters for which no construction or rehabilitation work is required, are expected to cause temporary and localized disruption of the local setting, i.e. due to the construction and use of access roads, and earth- and construction works. However, negative environmental impacts of these interventions are expected to be small and can be mitigated by the application of appropriate safeguard measures. Any remaining negative impacts are believed to be outweighed by the positive impacts that for most options are reduced waterlogging and salinization problems. Further positive environmental impacts should be provided by the irrigated land degradation mitigation component of the GEF Project, which include introduction of integrated low-cost, low-risk water and land management technologies, such as drip irrigation, salinity mitigation of marginal land, water re-use, soil quality enhancement, pumping for groundwater extraction, alternative cropping, and other techniques or practices to increase water use efficiency and agricultural productivity.

- *Table 2 Expected main environmental impacts of the I&D component*

Zone	**Likely main Project interventions**	**Positive environmental impacts**	**Negative environmental impacts**	**Mitigation**
Vertical Drainage	Construction or rehabilitation of	Improved drainage leading to reduced waterlogging	Temporary and local disruption due to	Construction safeguards

Zone	Likely main Project interventions	Positive environmental impacts	Negative environmental impacts	Mitigation
Drainage	Pressure Relief Wells and rehab. of Pumped Wells	and salinization problems	construction works	safeguards
Combined Drainage	Constr./rehab. of wells and horizontal drainage	Improved drainage leading to reduced waterlogging and salinization problems	Temporary and local disruption due to construction works	Construction safeguards
Horizontal Drainage	Constr./rehab. of open and closed drainage systems	Improved drainage leading to reduced waterlogging and salinization problems	Temporary and local disruption due to construction works	Construction safeguards
Downstream	No interventions envisaged	None identified	Increased influx of drainage waters and salt, probably of a temporary nature	

3.3 Potential Benefits and Impacts – Rural Finance

- ***Agricultural Enterprises***

Potential benefits and impacts for several major enterprise groups presented in Table 3 below. A rating for the potential impact, the residual impact and the risk is also provided. Good practice mitigation measures are described in the environmental management section below.

The major potential impacts associated with the agricultural enterprise categories include water and air quality deterioration, loss of biodiversity and impacts on biophysical resources, including vegetation cover losses and soil erosion.

Most of the benefits presented in the table are socioeconomic. The only biophysical benefit (or environmental enhancement) is the storage of agricultural chemicals (including fuel). However, it is the biophysical resource base that supports much of the rural economic activity (e.g. soil, water, forests, and mineral resources).

- *Table 3. Potential Benefits and Impacts : Agricultural Enterprises*

Broad Category	Benefits	Potential Impacts	Level of Significance of Impact
Agro-processing	Provision of secondary production to local farmers, thus providing a guaranteed market for farm produce and providing them with a steady income. Opportunities for export markets. Provision of jobs.	Water pollution .safety and health .biophysical and cultural losses through location	Moderate
Market refurbishment or new market structure	"	Poor location disrupting people and perhaps important biophysical and cultural resources	Low
Transportation system (people and goods)	Provision of improved access to markets and services; lower cost goods and services; improved rural economic and social conditions	Air pollution	Low
Agricultural equipment hire	Improved productivity, small business development	Soil erosion and soil compaction as result of farm mechanization	Low – moderate
Irrigation system	Improved productivity	Desertification and depletion of water resources	Moderate – high
Other agribusiness	Improvement of supply chain, resulting in stabilized markets and farm income. Provision of structure to ensure comprehensive farm inputs resulting in improved production and stabilized incomes. Provision of jobs.	Variety of minor impacts although aquaculture could result in damage to aquatic ecosystems, particularly the loss of endemic fish species	Moderate-High (aquaculture) and Low – Mod. for other activities
Agrotourism, ecotourism	Provision of jobs; input to the tourist industry which, if developed, provides additional jobs and leads to community prosperity	Location:.biophysical losses, aesthetics Construction impacts water pollution	Low – moderate

As the rural economy grows, the onus will be on the Government of Uzbekistan to ensure that relevant environmental regulations are in place, maintained and enforced. The economic development of the rural areas must be sustainable, and the very resources that provide the basis for this development must be protected and managed.

- ***Farm Inputs***

These impacts apply to both small and medium scale farms. A summary of the benefits, potential impacts and their level of significance is given in Table 4~~Table 4~~.

- *Table 4. Summary of Benefits and Potential Environmental Impacts – Farm Inputs*

Input	Benefits	Potential Impacts	Level of Significance of Impact
Seed	Production; increased farm income; improvement of rural economy; contribution towards national security	Water and soil contamination through chemical inputs	Low-moderate

Input	Benefits	Potential Impacts	Level of Significance of Impact
Pedigree seed	Increased production; increased farm income; rural economy improved; contribution towards national food security	Biodiversity loss; chemical inputs	Moderate-high
Fertilizer	Increased production; increased farm income; rural economy improved; contribution towards national food security	Water pollution	Moderate-high
Pedigree animals	Fewer animals required for same production; or, improved production and higher quality product for marketplace; improved farm income; rural economy improved; stock available for export and increasing foreign exchange	None	None
Animals for finishing	Improved farm income; rural economy improved; contribution towards national food	Overgrazing; forest degradation	Moderate-High
Land preparation (tractor and machinery hire)	Increased production; increased farm income; rural economy improved; contribution towards national food security	Soil erosion	Moderate-high
Tractors	Reduces labor burden on farm family; improves farm efficiency; improves profits and rural economy	Soil compaction and erosion	Moderate-high
Other farm implements	Reduces labor burden on farm family; improves farm efficiency; improves profits and rural economy	None	None
Small equipment	Reduces labor burden on farm family	None	None
Fencing materials	Reduce boundary disputes; containment of livestock; improved management of livestock, protection of forest resources	Social barriers	Low
Primary processing equipment	Value added stays in rural areas leading to improved local economy through provision of jobs; improved farm income; reduction in transportation costs and fossil fuel consumption	Water pollution	Moderate
Veterinary services	Healthy livestock, improved production and farm incomes	Hormones and chemicals in meat	Moderate

The major potential impacts associated with the potential agricultural inputs relate to water and soil quality, soil erosion, salinization and resource loss.

Livestock rearing in large numbers and in closed conditions, results in a concentration of animal waste that can contaminate both groundwater and surface waters. In the case of the former, public health is at risk, in the case of the latter, aquatic ecosystems and, possibly public health, are both at risk. Livestock expansion, particular for farms in the hills and near the mountains, can lead to pressure on common public lands including forests. Loss of biodiversity and soil erosion can occur if livestock and pastureland is not managed effectively and if livestock numbers are not controlled. Introduction of bio-gas digesters under the GEF Project would provide a good tool to manage animal waste f rom concentrated holdings (feed lots, poultry farms), while generating usable gas and/or electricity and producing high quality fertilizer.

Tractors and land preparation can promote erosion, particularly if tractors are too heavy and

cause soil compaction, and if fields are ploughed (with or without the contour) and left for long periods before sowing. Where land is under some other use such as wetland, or forest cover on steep slopes, conversion to agricultural use poses a potential loss of biodiversity, habitat and species. As well, erosion risks may be increased, particularly on steep sites.

- ***Pesticides***

Increasing pesticide applications can lead to pesticide residue (including heavy metals) build up in the soil. Pesticides and fertilizers can migrate to both surface waters and groundwater resulting in contamination of these two sources and leading to damaged aquatic ecosystems and threatened health to downstream users.

In assisting borrowers to manage pests that affect agriculture, the Bank supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides. In Bank-financed projects, the borrower addresses pest management issues in the context of the project's environmental assessment.

Use of pesticides is a common practice in Uzbekistan, and hence it may occur indirectly under the RESP II components that provide credits to small and medium size agribusinesses. Although no pesticide products will be directly financed under RESP II, use of pesticides might be increased indirectly due to extension of agricultural activities in the project area.

Current system of pest control and overall Governments policy in handling dangerous pesticides is sufficiently strong. After independence, there were still practices for using dangerous pesticides countrywide that were widely used during Soviet Union. However, Government has taken initiative to reduce application of hazardous agricultural chemicals and pesticides and develop sound environment to improve pest management in late 1990's.

Cotton sub-sector project funded by World Bank was one of the initiators to start addressing this matter in Uzbekistan with involvement of international consultants and organizations, through the Integrated Pest Management Component of the Project. This component was an applied research programme to develop the technology for strengthening and expanding the use of IPM techniques, which integrate biological, chemical and cultural practices. This included the development of equipment for improved production and dispersal of beneficial insects and improved application of chemical pesticides. Additionally, the project provided production of training materials in IPM that was commonly used over the years among the agricultural producers and supported in drafting of a Pesticide Law.

A law was approved on August 31, 2000 (116-II) "About protection of agricultural plants from pests, desease and weed", that clearly defines about regulation on pest management in the country, which took the grass root from a recommendations of an international consultant and was essentially an enabling law, which formed the framework for laws on pesticide use and plant protection in Uzbekistan.

In 1999 Government set up special commission for controlling use of pesticides and chemicals – named State Chemical Commission of R.Uz. (Amendment was made to the structure of the

organization in 2005) whose main role is to control through registration and banning chemicals and pesticides used in Uzbekistan. Commission comprises from various ministries and agencies, including State Committee for Nature Protection (responsible for assessing the effects of pesticides to the environmental, particularly soil, air and water), Republican Center for Epidemiology (responsible for assessing the effects of pesticides to the human and animal health), and number of research institutes under MAWR and scientific institutions (responsible for testing, screening and identifying the methods for use of pesticides and developing hand outs and manuals) and others.

On March 2004 in accordance with Presidential Decree (#148) Republican Center for plant protection and agrochemicals was established under Ministry of Agriculture and Water Resources of R.Uz., to enhance the quality of the services rendered for beneficiaries and improve safety use of agricultural pesticides. Currently this organization has branches in all the districts; however their activities are not well established due to the lack of material resources and generally weakness of the capacity of the organization.

Generally control on type of pesticides and chemicals are regulated by the above special commission, and Republican Center for Epidemiology produces various handbooks on safe use of pesticides and chemicals. Number of handbooks under Sanitary Rules and Normative (SanRAN) tag were developed;

1. Hygienic pesticides in surrounding area objects and consumption goods normative (SanRAN - 2001);
2. Sanitary rules and hygienic norms during application, storage and transportation of pesticides in agriculture of Uzbekistan (SanRAN – 2001);
3. Hygienic requirements' for safety of agrochemicals (SanRAN - 2001);

Besides above handbooks and manuals, State Chemical Commission of R.Uz. develops special, simple manuals for application and handling every registered pesticides that are distributed, and in most of the time it is seller (producer, importer) responsibility to produce such manuals.

State Chemical Commission of R.Uz., annually produces book on pesticides registered in Uzbekistan and for which directions (types of plants and norms) should be applied is indicated. Any unregistered pesticides are forbidden to use and SCC is not responsible for misuse of registered pesticides. Besides this since the establishment of SCC there has been a list of banned for use pesticides and chemicals approved that are highly hazardous and prohibited for use by any individual or organization in the Country. Mainly SCC tries to follow international practices and requirements. Through Ministry of Health R.Uz., working group of SCC receives latest updates on hazardous technical grade active ingredients in pesticides (categorized into four groups) released by World Health Organization; State Committee for Nature Protection assists the SCC to get updated on relevant international environmental treaties and agreements pesticides such as by Rotterdam and Stockholm conventions. Uzbekistan is not a member of these conventions yet but it is planned to become a member in near future. Necessary documentations have been prepared and are currently under review by highest level of the Government. Currently, SCC follows the regulations of the conventions.

Hazardous products include pesticides listed in Class I(a) and I(b) of the World Health Organization (WHO) *Classification of Pesticides by Hazard and Guidelines to Classification* (Geneva: WHO, 1994-95); materials listed in the UN *Consolidated List of Products Whose Consumption and/or Sale have been Banned, Withdrawn, Severely Restricted, or not Approved by Governments* (New York: UN, 1994); and other materials that are banned or severely restricted in the borrower country because of environmental or health hazards. A copy of the national pesticide registration list is appended below at Annex 8. List of banned and severely restricted pesticides is appended below at Annex 9.

3.4 Potential Cumulative Impacts (Rural Finance Component)

Assuming that all mitigation is carried out on all sub-projects for which financing is provided, there will still be residual effects, that when considered in total, could have an overall significant effect on the environment. The major environmental concerns, as described in sections above, are water pollution and soil erosion, and the consequences and secondary effects that erosion will cause.

Considering the small size of most sub-projects, it would be easy to dismiss the negative effects that each sub-project might have on the environment. For instance, it is anticipated that small farmers will request modest loans for the purchase of basic farm inputs of seed, fertilizers, fuel, and for livestock. Such a loan to a single farmer would present little environmental concern and a large number of such small loans spread throughout the total project area would have a relatively negligible effect. However, if by chance a large number of requests for loans originated from the same area, and more importantly from the same watershed, the cumulative effect of all of the small (negligible) effects could be significant.

Cumulative effect is important in spatial terms, as indicated above, and also over time. For instance, a loan for seed purchase in itself has no negative impact, and in fact, has much the opposite with an increased production and return to the farmer. However, the same loan provided for more than two years in a row could promote poor crop and land management and disrupt a relatively current good agricultural management system characterized by long rotations. By avoiding a crop rotation program the farmer can deplete the fertility and organic content of his soil and further promote soil erosion. Over time there would be a cumulative effect.

Farmers should not be denied loans on the basis of their location, but if patterns appear to show concentrations of loans (e.g. fertilizers) in one watershed, the RRA environmental specialist should alert the PFIs and local environmental authorities and the PIU office for special monitoring of the situation. If the cumulative effects have the potential to become severe, lending for the activity should be suspended.

Another example applied to small and medium enterprises is the application of loans for rehabilitation or for the start-up of new businesses. With agroprocessing and other agrobusinesses, the environmental concerns usually focus on air emissions and effluent discharge. In the case of air emissions, there are usually standards in place that guide the concentration of various emissions at the stack. Although each industrial activity may have emission controls within well established national standards, cumulatively, all of the enterprises

in one region (e.g. in a small closed valley with poor air circulation) could significantly contribute to the deterioration of overall air quality, resulting in an impact on human health. Similarly for water quality, a number of enterprises releasing effluents into a water body could cumulatively affect the quality of the water in a significant manner even though each enterprise may be releasing very small amounts of effluent that meet set standards.

The other aspect of cumulative effects of the overall project is the accumulation of a large number of very small impacts over the full range of project-funded activities. That is, the cumulative impact of all of the small impacts as a result of a number of loans for agricultural machinery purchase, added to the cumulative impact of all of the small impacts from the livestock purchase sub-project, added to the cumulative impact of all of the small impacts from the non-farm enterprises. The overall cumulative impact could be significant. Since many of these activities can have an effect on water quality, the overall effect on water quality could be significant.

In a comprehensive examination of cumulative effects, an analysis would be made of all the various other activities taking place that have impacts, for instance, other programs that could be providing agricultural lines of credit; forestry programs that could be contributing to soil erosion; and in the same vein, road construction activities and other general construction that could add to the soil erosion problem. Although the RESP-II cannot be concerned about the effects of other projects, it is important to place the Project and the effects that it does have on the environment within the context of the overall development picture.

In order to prevent the risk of adverse cumulative environmental effects, a brief environmental analysis will be made of the portfolio every year by the RRA environmental specialist and reported to the relevant authorities in the Goskompriroda and the World Bank.

3.5 Mitigation

Under I&D component, the physical infrastructure, such as the interception collectors, vertical wells and horizontal drainage systems will be constructed and rehabilitated in line with government regulations norms CN&R 3.07.03-97 and CN&R 2 06.01.97. The location of new collectors, if needed, will be selected in such a way that the environmental and social impacts will be minimal. The construction contracts that will be prepared by the Feasibility Study team will include environmental clauses for the Contractors to implement the works in an environmentally sound way. The above-mentioned government guidelines will be the guidelines for the Contractors to prepare site-specific environmental management plans. It is assumed that the contracts will be awarded to capable contracting firms that are experienced to prepare site-specific environmental management plans and carry out these out in line with the requirements.

For agricultural activities under Rural Finance component mitigation should not necessarily entail expensive inputs and much can be achieved towards the minimizing of residual impacts through applying efficient and safe farming techniques. The Rural Advisory Services sub-component of the Project will be in a position to advise farmers on the proper handling and application of pesticides and fertilizers, including application rates and timely application. As well, it can advise on effective cultivation techniques (including the size of tractors and the type of equipment to be engaged) that will reduce the threat of soil erosion and compacting. Irrigation

schemes can be well planned in order to avoid the loss of productive land through salinization and waterlogging.

Adherence to water and air quality standards (Maximum Allowable Emissions) that are calculated for each enterprise will be monitored by local environmental agencies to ensure that water and air quality are protected.

Recommended mitigation measures for farm inputs and some categories of agro-businesses are addressed in the following section on environmental management guidelines. Guidance for preparation of mitigation plans is attached at Annexes 2 and 3 (Tables A-2.3, A-3.1, A-3.2).

To further ensure that environmental concerns are given proper consideration, the RRA hires an environmental expert who can advise on environmental aspects of I&D rehabilitation, as well as conduct overall project environmental monitoring. Similarly the RRA environmental consultant will provide advice and monitoring to PFIs regarding environmental screening of small and medium credit applications. The GEF Project would also support hiring additional environmental experts to advise the project and beneficiaries on renewable energy, energy efficiciency and land degradation mitigation.

3.6 Environmental Risk

Overall, the environmental risk is low to moderate, with due attention to the possibility of cumulative impacts. The project will benefit from the institutional capacity developed under RESP I which stressed awareness of safeguard policies. The project's information and advisory service activities will continue to promote the adoption of improved and environmentally sound technologies, provide training and advice on integrated pest management techniques as well as on improved use and handling of fertilizer and agro-chemicals.

The rural finance activities related to PFIs will deal with fairly small loans which are expected to be used for agricultural inputs and implements, equipment and trading activities with a minimal environmental impact. Members of PFIs involved in lending will also be provided with training on the potential environmental impact of sub-projects and on mitigation measures. Mid-size credits for agro-processors and other agribusinesses through qualifying PFIs will be required to include mitigating measures, if appropriate.

Compliance with the EMF guidelines will be monitored by the RRA environmental specialist and supervised by the World Bank.

4. ENVIRONMENTAL MANAGEMENT GUIDELINES

4.1 General

This EMF includes specific management activities that will be followed for ensuring that any Category B type sub-project financed by RESP II receives an appropriate environmental assessment. The responsibility for recognizing the environmental category of loan applications under Rural Finance component and AF rests with the loan officers of the various lending institutions

4.2 Management

The Rural Restructuring Agency will be responsible for overall Project implementation. The RRA and the Project in general will be supervised by the World Bank task team. This RRA will hire a consultant with an environmental background to ensure implementation of the Project in compliance with the EMF. The individual must be able to recognize an activity for which a sub-project or loan is being sought that may fall into Category A, B or C of the World Bank and ensure that the EMF guidelines are followed. The same consultant will maintain a working relationship with the relevant officers in the Goskompriroda and the relevant environmental inspectorates. As well, this individual will have a working relationship with the PFIs and will provide assistance in cases where determining the category of a particular activity that has been proposed for financing may be in question.

4.3 Mitigation

Measures required for mitigation of the expected negative environmental impacts of the Rehabilitation of the I&D systems component of the Project have been identified in this document below.

Part of the mitigation measures for I&D component relate to temporary and local disruption due to construction and rehabilitation works. Most of the identified mitigation measures are assumed to be part of the standard operational practices of Constructors during implementation of the Project. The Contractor contracts that will be prepared by the Feasibility Study team will include clauses on environmental protection that will outline the obligations of the Contractor for environmental management.

Most of the costs for mitigation activities for I&D component are expected to be included in the bidding documents that will be prepared by the Feasibility Study team, and the Contractor contracts are expected to include adequate budget for implementation of the environmental mitigation measures.

Detailed Mitigation Plan for I&D component of the Project is presented in Table 5 Table 1~~Table 1~~ below

- *Table 5. Mitigation Plan for I&D Component*

Mitigation Plan			
Activity / issue	Environmental impact	Mitigation measure	Responsibility
Construction and rehabilitation activities	Environmental hazards:	Detailed specifications to be developed for bidding documents; implementation of site-specific EMPs	FS team prepares Contractor contracts, including environmental clauses
	Fuel and oil spills	Proper transport, storage and handling	Contractor prepares site-specific Environmental Management Plans according to government regulations and guidelines provided in the EA
	Dust	Dust prevention and protection of workers, personnel and the public	Contractor and supervising Engineer are responsible for implementation of the environmental management (due diligence)
	Air pollution from machinery	Protection of workers, personnel and the public	
	Disposal of construction materials	Designation of disposal sites	
	Traffic and road damage	Traffic control, road maintenance and repair	
	Demoliation of old buildings and irrigation pipes	Appropriate disposal of asbestos waste.	
Environmental protection and enhancement	Disruption of aquatic and terrestrial ecology/habitats	Establishment of alternative conservation areas (e.g. green belts along constructed collectors, and promotion of multi-purpose trees)	Contractor
Groundwater level and waterlogging	Reduced agricultural productivity	Implementation of the technical and institutional interventions and participatory water management	RRA, Contractors, supported by BAIS and WUAs, and Uzhydroengio
Salinity and pollution	Reduced agricultural productivity	Implementation of the technical and institutional interventions and participatory salinity control; agricultural extension	RRA, Contractors, supported by BAIS and WUAs
Quality of ground and surface waters	Risk of impacts on downstream areas	Promotion of integrated water management, institutional support and system rehabilitation;	MAWR, *Goskompriroda*, supported by BAIS and Uzglavhydromet

Mitigation Plan			
Activity / issue	Environmental impact	Mitigation measure	Responsibility
		public awareness campaigns	
O&M of irrigation and drainage infrastructure	Improved O&M capacity	Preparation and distribution of manuals and leaflets	MAWR
High groundwater levels and waterlogging	Reduced agricultural productivity	Operation and Maintenance of the Project interventions.	MAWR and regional institutions, WUAs at local level
Salt mobilization	Increased salinity levels and land abandonment	System maintenance and participatory salinity management control.	MAWR and regional institutions, WUAs at local level
Quality of ground and surface waters	Increased diffuse and point pollution	Public awareness campaigns to counteract pollution.	MAWR, *Goskompriroda*, Uzglavhydomet
Flora and fauna	Risk of biodiversity loss, reduction of crop diversity and loss of gardens to agriculture	Promotion of diversity in farming practice and local landscape, and ensure environmental component measures; awareness campaigns	MAWR, *Goskompriroda*, and their regional departments

Mitigation of any environmental effects from Rural Finance and AF activities will be the responsibility of the activity proponent. However, it will also be the responsibility of the PFIs and the RRA to ensure that mitigation is carried out successfully for sub-projects of Category B and some sub-projects of Category C as it might be required. This responsibility will be reflected in an effective established monitoring system. Tables A-3.1 and A-3.2 (Annex 3) provide suggestions for agricultural good practices and non-agricultural rural activity good practices which, if followed, will prevent many of the potential impacts from occurring.

Most mitigation for the various activities that have been suggested as likely candidates for financial support can be conducted through the application of sound practices. Often it is a choice of how an activity is conducted – between the right way and wrong way with little, if any, additional cost to the activity's proponent. However, often the proponent will not be aware of an approach that will minimize the environmental effects. The RAS component of the Project will have an important role to play in directing farmers and agribusinesses towards best practices in order to eliminate or reduce environmental impacts as these are related to the various farm inputs that would be sought through the credit program. For example, if a borrower has purchased a tractor, cultivating with the contour as opposed to against the contour will significantly reduce erosion.

A format for a mitigation plan is attached at Annex 2 (Table A-2.3)

4.4 Monitoring

Those activities of the I&D component of the Project that impose, or may impose, a significant negative impact on the environment, and negative environmental impacts that result from operation of the infrastructure after Project completion, must be monitored so that appropriate

action can be taken to prevent or minimize environmental damage.

The following parameters are recommended for monitoring during Project implementation:

- Pollution of ground- and surface waters by Project waste;
- Condition of Water Protection Zones around construction and rehabilitation sites;
- Handling of soils during earth removal works at excavation and storage sites;
- Handling of waste including fuel, lubricants and construction wastes;
- Air quality (dust, exhaust fumes) near work sites;
- Traffic movement and safety control;
- Impacts on flora and fauna;
- Groundwater level and waterlogging;
- Salinity and pollution;
- Quality of ground- and surface waters.

Monitoring during operation of the irrigation and drainage infrastructure requires:

- Training and education on integrated water management;
- Groundwater levels and waterlogging;
- Land salinization;
- Ground and surface water quality inside the Project area and downstream;
- Flora and fauna.

Recommended monitoring agencies are:

- MAWR and its regional institutions (BAIS, HGME), and RRA;
- Uzglavhydromet of Cabinet of Ministers;
- *Goskompriroda* (pollution sources);
- *Goskomzemgeodezcadaster (soil and water quality)*
- Non-governmental organisations e.g. WUAs, farmers associations.

Monitoring of all activities within the Rural Finance component of the Project will be the responsibility of the RRA. Monitoring of environmental effects is important. The environmental consultant of the RRA will follow an effective monitoring procedure.

With the potential of hundreds of small and medium loans it will not be feasible to monitor all of them on regular basis. The environmental consultant will need to select a sampling of individual activities within categories of activities for regular monitoring purposes. A number of activities will be environmentally benign and as such will not require monitoring on a regular basis. Nevertheless, they should be examined on occasion to ensure that this EA did not overlook any potential impacts. Rural enterprise activities should be monitored regularly on a random sample basis. A checklist for random sampling monitoring is attached in Annex 5.

The RRA environmental consultant will develop a monitoring procedure and schedule. It will be important that for each category of activity that indicators upon which to base monitoring are identified. However, in reality it will be impossible to collect base line information for all Rural

Finance component sub-loans, particularly since the Project is not site specific and investment applications can come from anywhere in the project territory. Indicators may be quantifiably measurable or they may be measured subjectively. Some indicators will require precise measurement, for instance in the case of the water quality indicator to measure the effects of effluent discharge from an agro-processing facility.

Once baselines have been established subsequent monitoring missions will measure against this baseline and provide an analysis of changes, if any.

From an environmental viewpoint, those groups of projects which have the potential for creating the most serious environmental problems should be given highest priority for sampling. A monitoring report will be prepared indicating monitoring results and a recommendation for actions to be taken, if necessary, to minimize, if not eliminate, any adverse environmental effects.

4.4.1 Monitoring plan

Required monitoring activities, as well as responsible agencies for measures and monitoring I&D component activities of the Project are given in the **Error! Reference source not found.**.

- *Table 6. Monitoring of environmental parameters during I&D component of the Project implementation*

Issue	Responsible organization	Indicators	Location andfrequency
Environmental hazards on/ near work sites	EMS of the PIU	Fuel and oil spills, dust formation, air pollution from machinery, disposal of construction materials, traffic and road damage	Work sites; annually
Environmental protection and enhancement	EMS, *Goskompriroda*	Disruption of aquatic and terrestrial; ecology, habitats, greenbelt establishment, construction of alternative multi-purpose ponds	Work sites, annually
Groundwater level and waterlogging	EMS, Province Level Hydro-geology Meliorative Expedition, and WUAs	Water table level, waterlogging extent.	Project zone, annually
Soil salinity and pollution	EMS, Province Level Uzgiprozem and HGME, and WUAs	Mechanical composition, humus content, mobile and gross NPK, dry residue, pH, ions of salts (sulphate, hydrocarbonates, Cl, Na, K, Ca, MG), mineralization, hardness, BOD, COD, nitrates, nitrites, ammonium, phosphates, pesticides, oil products, phenol	Project zone, annually
Quality of	EMS, HGME,	Groundwater mineralization, pH,	Project

ground and surface waters	Glavhydromet at Cabinet of Ministers	suspended sediment, EC, ions of salts (SO_4, CO_3, Cl, Na, K, Ca, Mg), mineralization, hardness, BOD, COD, nitrates, nitrites, ammonium, phosphates, pesticides, oil products, phenol	zone, annually

The following activities are required for Environmental Monitoring of Rural Finance component implementation:

- The RRA environmental consultant will review the quarterly activity reports submitted by the PFIs, and will conduct random sampling review of 10% of small and medium credit applications every 6 months to verify compliance with the EMP. Review of the credits selected for the random sampling will be based on the environmental screening sheet provided by the PFIs on each loan. The review should include a visit to the activity site, an interview with the applicant, and a consultation with the regional environmental authorities. In sub-projects selected for environmental monitoring, a typical environmental monitoring plan would be prepared as shown in Annex 5.

- Based on the credit activity reports, site visits, and information from local environmental authorities, the RRA environmental specialist will analyze environmental situation by province to determine whether purchases under RESP-II credit lines has increased, potentially creating cumulative impact. If this occurs, RESP-II may suspend lending.

- The RRA environmental specialist will review plans for training and advisory services to ensure that sustainable agricultural practices for farmers and agro-business personnel are included, and that environmental due diligence for PFI staff is addressed.

If monitoring is to be effective, the recommendations of the monitoring report must be acted upon by the RRA and the PFIs. This could include the removal of the category of activities from future loan considerations. The RRA environmental specialist will work in cooperation with the project M&E specialist to integrate monitoring of EMP implementation into the overall project M&E design.

4.4.2 Environmental monitoring of long term issues

The Goskompriroda and its local agents will decide on measures to monitor the long-term effects of activities that could have negative environmental impacts. This may include monitoring by its staff, or by specialists contracted to undertake specific monitoring duties. Typically this may include:

- Monitoring effluents from production units and factories, and monitoring the water body into which effluents discharge, to ensure no negative impacts
- Monitoring air quality in and around mills to ensure compliance with air quality standards
- Monitoring soil/water conditions in and around chemical and fuel storage depots and chemical mixing plants to ensure no negative impacts
- Monitoring forestry and large scale farming operations to ensure the ecology is being maintained (run-off and erosion)

- Monitoring wet-lands or areas of scientific, natural or historic interest where they may be affected by the project

Special environmental studies may also be called for in the event of sudden environmental change near to a sub-project activity. The frequency of monitoring and type of samples analyzed would be dependent on the nature of the pollutant.

Bank supervision missions will include an environmental specialist once a year to audit monitoring procedures and results. The specialist should assess one or two loan activities where impacts are likely to occur in order to ensure compliance. As well, the specialist should provide an assessment of the effects, if any, that the Project may be having on cumulative impacts.

5. ENVIRONMENTAL REVIEW PROCEDURE GUIDELINES FOR I&D COMPONENT

5.1. Environmental due diligence

Environmental due diligence is incorporated in the project implementation to control the residual risk of accidental environmental damage and to prevent the negative environmental impacts during construction. The Contractor(s) and the Construction Supervising Engineer will have the primary responsibility for the environmental due diligence. Mitigation measures will be reflected in the project's final designs and will be included in the tender documents and Contractor contracts. Supervision of I&D sub-project EMP measures, including activities requiring environmental due diligence, will be done by the Environmental Management Specialist (EMS) within the Rural Restructuring Agency (RRA). The EMS will report to the RRA on a quarterly basis. The RRA is expected to report to the Project Steering Committee. The construction/rehabilitation risks to be monitored will include, but not limited, to the following issues:

- handling of hazardous material as far as part of construction activities;
- movement of machinery;
- collection and safe disposal of hazardous residues and dismantled materials;
- occupational safety and health;
- management of pollution incidents.

Each irrigation and drainage activity shall be implemented in conformity with all local and national environmental standards, and its design and implementation shall provide for adequate mitigation measures to ensure full compliance with local and national health, environmental and safety standards and requirements. I&D sub-projects shall not drain or reclaim any significant area of natural wetland which has or is likely to have a significant impact on an important area of wildlife habitat or major fishery. Each sub-project shall address the risk of encountering unknown archaeological or historical sites by adopting and following appropriate procedures.

Potential negative impacts of the I&D component and the GEF-LD component (on-farm) could be:

(i) Environmental damage possibly caused by contractors during construction activities; and
(ii) Dumping of excavated sediments or other materials from rehabilitation/introduction of the I&D structures/interventions.

Early inclusion of the EMF into the I&D NCB/ICB tender documents: This would be the onus of RRA-EMS. The RRA/PIU should include in the tender documents adequate EMF/EG clauses, including (only for the sizable off-farm works) a provisional "chance find" clause as to OP4.11 (Physical Cultural Resources, even if it is not triggered under the Project safeguards). Thereupon, the bid submitted by the wining contractor should include similar EMF-related obligations, to be supervised by the EMS.

The farm-level/on-farm interventions introduced by GEF (LD and CC) will be participatory and contingent upon farmers/WUA consent, and hence there will be no issue of land/crop-loss compensation (nor any private-land acquisition). Hence OP4.12 on Involuntary Resettlement will continue to be not triggered.

5.2. Environmental protection and enhancement

The ecological and social importance of Project area warrants the implementation of environmental protection and enhancement measures such as habitat protection and management of Water Protection Zones. It is recommended to create of green belts along the constructed intercepting collectors for enhancing environmental and social forestry. Also the creation of alternative reedbeds (to replace the reedbeds currently existing in the drainage collectors) should be considered, for example in small multi-purpose water ponds that may be created on suitable locations. However, it still needs to be confirmed where such interventions are socially desirable and acceptable.

Monitoring during contract mobilization to decide if a "Site-specific EMP" is needed: This will be the onus of RRA-EMS, assisted by the (environmental) monitoring consultant. During contract mobilization, the EMS and the contractor would reach-out and cooperate with the local inhabitants to help scope out any site-specific issues/requirements, hence to determine if a site-specific EMP is needed beyond the proposal submitted by the contractor (e.g. to add post-contract mitigations, such as creating alternative reed-beds replacing the ones lost due to the I&D rehab, or restoring any trees which inevitably needed to be cut to access the construction site). The "Site-specific EMP", if any, would be a very focused and succinct document (could just be a few pages), and should be shared with and disclosed by the WB.

5.3. Technical interventions

The main Project interventions, i.e. the technical and institutional measures to mitigate the waterlogging and salinization problems, are considered as a part of the EMF, as these are the main Project interventions that are to result in positive environmental impacts. Responsibility for

implementation of these measures is with the RRA, the Contractors, BAIS, WUAs and involved technical institutions. During implementation of the Project, the impact of the interventions will be monitored by the EMG, HGME and WUAs.

Monitoring the EMF during project/contract implementation:_ Instead of producing separate environmental reports, the periodic project-wide M&E reports would include reporting on: (1) contractors compliance with the EMF (i.e. "environmental audits": first 3 audits can be quarterly, and thereafter, annual) and (2) progress on the indicators identified by the EMF (e.g. GWT level and salinity) compared to their baseline values.

5.4. EMF measures after Project completion

Once all Project interventions have been completed the improved irrigation and drainage systems are expected to operate and the processes of water table lowering and reducing the soil salinity are ongoing. To sustain the Project outputs the main mitigation measures will then be operation and maintenance of the irrigation and drainage infrastructure, where necessary with participation of the user groups (WUAs, farmer associations). It is expected that considerable further effort will be needed to inform the users through awareness and training campaigns. Also efforts will be needed to promote farming diversity and environmental protection and enhancement. Responsibility for these after-Project measures will be with the MAWR and its regional institutions, as well as with the *Goskompriroda*, and WUAs. As the Project funds will have been exhausted by then, all funding for these activities is to come from government, and where possible WUAs. Responsibility for monitoring of the after-Project interventions is among others with MAWR, its regional branches, HGME, WUAs, and local NGOs.

Implementation of the EMF will ensure that the Project has a beneficial effect on the four basic natural resources, i.e. surface water, groundwater, soil and biodiversity. The RRA will provide members of WUAs and local governance with information on the soil and water conditions in the Project area.

6. ENVIRONMENTAL REVIEW PROCEDURE GUIDELINES FOR RURAL FINANCE COMPONENT and AF

6.1 Overview

Each sub-loan/lease proposal will undergo an environmental review procedure, as follows:

- Credit applicants: complete the form (Form 1, Annex 2) to identify possible environmental impacts of proposed activities, identify and agree to undertake mitigation measures if appropriate. The credit application form includes a checklist (Form 1, Annex 2) to identify environmental risks. The credit applicants are also responsible for obtaining appropriate permits and approvals that may be required for the particular type of activity to be financed, and

are issued by the local authorities responsible for environmental issues. In all cases where an environmental assessment report or environmental monitoring plan are required, these are to be prepared by the credit applicants and, where relevant, submitted to the Goskompriroda (or its Agents), and the EIA report and monitoring plans are to be provided with the credit/grant application.

- PFIs: screening of applications including for environmental impacts, ensuring required permits have been obtained. Request RRA to carry out field site visits for on site environmental screening (specifically, for sub-projects classified as category B) to verify the environmental data provided by applicants, assist in identification of mitigation measures, and confirm that the environmental category is appropriate and that the EMP is adequate:

- RRA: monitor compliance with EMP; provide advice on specific issues that may arise including EA/EMP preparation assistance to category B projects through site visits; monitor for cumulative impacts; provide training on environmental due diligence to PFIs; provide training and information on sustainable agricultural practices via advisory services component

6.2. Environmental screening for small credit applications

The Environmental Screening Checklist shall be prepared by PFIs and MPFIs for small-size credits up to US$10,000 equivalent. Sample Environmental Screening Checklist form (Form 1, Annex 2) should be included in the credit application form. The loan officer of the PFI screens applications against the environmental checklist and assigns the environmental category (Form 2, Annex 2). Most small credits to will fall under Category C, requiring no further action beyond screening. In case of questions regarding environmental impact or appropriate category, the PFI contacts the environmental specialist of the RRA for advice and assistance. If mitigation measures are needed, these are agreed with the applicant and reflected in the credit application. The results of the environmental screening are recorded on the application and maintained with the credit file.

6.3. Environmental screening for medium credit applications (greater than US$10,000)

The potential sub-borrower shall complete Environmental Screening Checklist (Form 1, Annex 2). It is expected that the majority of mid-size credit sub-projects will fall into category B.

The PFI will screen each sub-project against the environmental checklist (Form 2, Annex 2) to define the environmental category of the sub-project, review the proposed mitigation measures, and ascertain that all required permits have been obtained and are valid. For sub-projects classified as Environmental Category B, the RRA environmental specialist will visit the applicant and project site to conduct a simple EA and identify mitigation measures. The RRA specialist will complete the field vist checklist (Form 3, Annex 2). The applicant will reflect the checklist findings and recommended mitigation measures in the application package. When the RRA visit or initial screening reveals high or significant risks, the applicant will hire a consultant to prepare a full EIA and management plan. The cost of the EIA can be included in the credit amount.

In cases when possible adverse impacts are discovered during the Field Site Visit, the Environmental Screening and Field Site Visit Checklists are submitted to the Goskompriroda, which issues a preliminary environmental statement listing potential environmental concerns and mitigation measures and determines whether an environmental assessment (EA) is required. If permits from the Goskompriroda are needed, these are to be obtained by the borrower and submitted to the PFI with the sub-project proposal. The credit application package must include guidelines and instructions to the borrower. The Goskompriroda shall issue environmental permits, if required. The procedure for issuing permits includes: (i) state ecological expertise, and (ii) stakeholder consultation in the decision-making proces

During the project implementation, the PFI should ensure that the environmental mitigation measures are implemented. In the case of non-compliance, the PFI (with assistance of RRA environmental consultant as needed) will investigate the nature and reason(s) for noncompliance, and a decision is taken about what is needed to bring a sub-project into compliance, or whether financing should be suspended.

6.5 Sub-project Categories

Sub-projects assessed as Category A, (high environmental risks). No Category-A sub-projects will be financed by the project.

Sub-projects assessed as Category B, (moderate environmental risks) may require Secondary Screening during appraisal, and are expected to require a basic EA and mitigation and monitoring arrangements. Annex 1 provides examples of Category A, B and C sub-projects. For expansion of existing facilities or where change of technology is proposed, an environmental audit may be required, depending on the nature of the sub-project.

Sub-projects assessed as Category C, (sub-projects having no significant environmental issues) require no Secondary Screening.

6.6. Secondary Screening

In some cases, a Secondary Screening may be conducted to establish the veracity of the environmental data provided by the sub-project proponent. Secondary Screenings will be done on a random sample basis, or at the request of the PFI as part of sub-project appraisal. The completed Secondary Screening form (Form 3, Annex 2 – Field Site Visit Checklist) will be entered in the project files.

Secondary Screening during site inspection includes updating and physical verification of all data provided in the credit application:

- Confirm actions taken since submittal of the credit application
- Environmental data provided by the applicant is correct
- No potential environmental issues have been ignored
- The environmental category classification is appropriate

- Environmental management and monitoring plan is adequate
- EIA report has been completed (where required)
- Statutory environmental permits have been received and are adequate
- Stakeholder consultations are complete (Annex 7)
- Confirm that no land aquistion is to be financed, nor resettlement triggered.

In cases where Secondary Screening substantially modifies any of the above, the Environmental Screening Category and the Environmental Management Plan may need to be revised. The sub-project must not be financed by the PFI until the revisions have been accepted and checked by the RRA. Secondary Screenings would not typically be performed.

6.7. Rejection of sub-project

If the sub-project is rejected on environmental grounds after an unsatisfactory site visit, an improved environmental proposal may be submitted by the proponent, and re-appraised as above. Re-appraisal should be restricted to one improved proposal, and the proponent should not expect to make multiple applications on the basis of continuous marginal improvements to the scheme. Re-appraisal should be at the discretion of the PFI, and consulted with the RRA. More detailed information is given in Annex 4.

6.8. Environmental Monitoring

If the credit application is accepted for funding, environmental monitoring will be required for Category B projects in compliance with the environmental management plan (EMP) agreed in the screening procedure. The extent of project monitoring will be dependent on the nature, scale and potential impact of the sub-project. Monitoring may require the services of environmental specialists or a company with laboratory and analytical facilities (for complex environmental problems) or inspection by the local government environmental officer. Environmental monitoring is the responsibility of the RRA.

6.9. Reporting by the PFIs and the RRA

Credit line PFIs are required to submit quarterly reports to the RRA on the credits financed using WB funds in accordance with uniform reporting formats as prescribed by the Project and agreed by the World Bank. That report would have a section on environment.

The RRA will address in physical progress report section of the regular quarterly Financial Management Reports (FMRs) that are to be provided to the Bank.

The RRA will address environmental aspects of the financed sub-projects and the related documents (i.e., environmental management plans and mitigation measures) in its routine reporting to the World Bank and during the periodic supervision missions

7. INSTITUTIONAL ISSUES AND IMPLEMENTATION ARRANGEMENTS

A main output of the EA is the institutional strengthening plan for improving the capability for environmental management. This plan is based on the findings of field surveys and public consultations. The following institutional strengthening activities related to the environmental management and monitoring are recommended:

- strengthening the RRA capacity by hiring of an Environmental Monitoring Specialist (EMS);
- environmental training programme for RRA/PFIs, farmers/WUAs and training in coordination with other agencies;
- agriculture extension and awareness raising programme for key stakeholder groups.

Environmental Monitoring Specialist (EMS)

The RRA will be responsible for implementation of RESP-II in compliance with the Environmental Management Framework. The RRA will hire Environmental Monitoring Specialist specifically responsible for environmental monitoring of the Project interventions and its impacts. The EMS will be in charge of overall coordination and reporting on the EMP, inspection of environmental compliance at worksites, advising project participants on envirionmental questions, coordination the overall environmental monitoring at project level, and coordination of the agricultural extension programme.

The EMS will report directly to the RRA/MAWR. The EMS will be responsible to implement the monitoring plan. EMS will prepare and submit a concise quarterly reports to the attention of the RRA on the most important issues related to the EMP. The format of the report will be prepared by the EMS and approved by the RRA/MAWR.

Training programme

A training program targeting the RRA/PFIs, WUAs, farmers and other stakeholders will be implemented in the framework of the Project's institutional component. Some of the training modules will specifically be dedicated to environmental issues and to procedures and methods for the implementation of the EMF. The training provided under RESP II will be expanded and deepened through the GEF Project.

Sustainable Agricultural Extension

Analysis shows that the current agricultural extension, if existing at all, within Project area is weak and needs strengthening particularly in IWRM to be able to provide the required extension assistance to WUAs. It is therefore recommended to include in the Project an agriculture extension component which will enable WUAs and farmers to gain the full benefit from the Project, i.e. dissemination of improved technologies, effective participation of local stakeholders during the design and construction works, improved skills and empowerment for decision making in integrated water management and environmental protection and enhancement. This component will build capacity of oblast and raion institutions and NGOs, particularly WUAs and

small farmers. Additional extension services and demonstration of environmentally sustainable technologies and agricultural practices will be provided under the GEF Project.

ANNEX 1

ENVIRONMENTAL CATEGORIES

Bank Category A (Uzbekistan Law Category 1): A Category A project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works, can cause serious and irrevocable impact upon the environment or human health. The EIA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" scenario), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance for a Category A project, the borrower is responsible for preparing a report, normally an Environmental Impact Assessment (or a suitably comprehensive regional or sectoral EIA).

Bank Category B (Uzbekistan Law Category 2): A Category B project has potential adverse environmental impacts on human populations or environmentally important areas - including wetlands, forests, grasslands, and other natural habitats - which are less adverse than that of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EIA for a Category B project may vary from project to project, but it is narrower than that of a Category A assessment. Like Category A, a Category B environmental assessment examines the projects potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

Bank Category C (Uzbekistan Law Category 3-4): A Category C project is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EIA action is required. Category-C includes activities, the scope, location and content of which will not bring about serious impact on the environment.

Bank Category FI: A Category FI project involves investment of Bank funds through a financial intermediary (FI), in subprojects that may result in adverse environmental impact (also known as Category F). Sub-projects may be defined as Category A, B or C within the FI Category[3]. Category A sub-projects will not be eligible for financing under the project.

Category B sub-project EIA reports, are subject to post review by the Bank.

It is important that the project management unit and the lending institution be able to identify activities for which funding is being requested and which may fall into either of the World Bank's Category A or Category B. For the most recent information on environmental categories see Website www.worldbank.org/environment

Sub-projects classified as Categories A, B or C include:

[3] As indicated above, Category A sub-projects would not be eligible for financing under RESP-II.

Category A Sub-Projects	Category B Sub-Projects	Category C Sub- Projects
Agriculture (large scale) - Agriculture, horticulture, vineyards and orchards (medium scale intensive operations >500 ha)[4] - Animal husbandry (large scale – more than 1000 head of cattle, 10,000 small ruminants, 300,000 poultry) - Re-cultivation of resting land (greater than 1000 hectares); - Setting up of mariculture and aquaculture farms with exotic species - Utilization of agricultural land (over 50 hectares) for non-agricultural (commercial or industrial) purposes ***Food processing industries (large scale)*** - Complex poultry and cattle breeding farms (>500 head of cattle) - Slaughter-houses and meat packing plants (large scale -- > 10,000 tons/year)	***Agriculture (medium scale)*** - Agriculture, horticulture, vineyards and orchards (medium scale intensive operations 50 -500 ha)[1] - Animal husbandry (medium scale – 100 to 1000 head cattle and up to 10,000 small ruminants) - Poultry production with 1000-300,000 birds (specific mitigation measures required) - Construction and operation of potable and surface irrigation water supply - Re-cultivation of resting land (up to 1000 hectares); - Setting up of mariculture and aquaculture farms on rivers or lakes larger than 0,5 ha (no exotic species) - Utilization of agricultural land (30 to 50 hectares) for non-agricultural commercial purposes - Utilization of virgin soils and unbroken expanses for intensive agriculture - ***Food processing industries (medium scale)*** - Agro-processing factories, foods, beverages, seeds, fibers (medium scale -- > 5000 tons/year of output) - Canning industry (annually processing 10,000 to 20,000 tons of output). - Complex cattle breeding farms (1000 head) - Dairy goods, milk and milk products factories - Slaughter-houses, meat packing and animal remains processing plants (medium scale – 5000 - 10000 tons/year)	***Agriculture (small scale)*** - Agriculture, horticulture, vineyards and orchards (small scale <50ha) - Animal husbandry (small scale – fewer than 100 head) or 1000 poultry - Construction of a grain drying, cleaning, storage and silo towers - Construction of buildings to store agriculture goods and agricultural products - Construction of glass-houses or polytunnels - Construction of warehouses for chemical pesticides and mineral fertilizers - Production of flax - Utilization of agricultural land (20 to 30 hectares) for non-agricultural purposes - Construction and operation of artesian wells - Acquisition of tractors and other farm equipment - Agrotourism - Recontruction of ***Food processing industries (small scale)*** - Canning industry (processing <3000 tons/year of raw materials). - Collection of medicinal herbs - Construction of a roasting enterprise (coffee beans, sunflower etc) - Construction of agricultural products process buildings,

[4] There is no specific requirements for EA of agricultural, horticultural or orchard and vineyard activities under the local Law, so the RESP II will specify >50ha and less than 500 ha category B and <50ha as Category C.

		facilities and enterprises - Establishment of semi-finished food factories (capacity < 1000 tons/year) - Production of non-alcoholic beverages - Setting up slaughter-houses (small scale < 5000 tons/year) and butcheries

ANNEX 2

ENVIRONMENTAL SCREENING CHECKLIST FORMS FOR RURAL CREDIT COMPONENT

Environmental Screening Checklist forms shall be prepared by credit applicants and shall be included in the credit application forms. This is a sample screening checklist that is recommended by the team of experts for use during the preparation of credit guideline and manual under Rural Finance Component.[5]

FORM 1 - ENVIRONMENTAL SCREENING CHECKLIST

(To be completed by credit applicant)

1. Sub-project name:

_____

2. Brief Description of Sub-project:

_____

_____

_____

***2.1 Nature of the activity*:**

_____

_____

_____

2.2 Cost:

_____

2.3 Physical characteristics (description of items to be financed):

_____

2.4 Site area (# of hectares) and location:

_____

*2.5 Property ownership:*_____

2.6 Existence of ongoing operations? (yes/no)

_____

*2.7 Plans for Expansion?*_____

_____

[5] Sections 1 and 2 of Form 1 may be taken from the general application form

*2.8 New construction?*_____

3. Which of the following inputs would be financed? Indicate with a check below which inputs or investments would be financed, the potential impact (if known), and whether mitigation measures have been identified.

Table A-2.1 Farm Inputs Screening Checklist

Input	Will be Financed	Potential Impact	Mitigation Measures Identified?	
			Yes	No
Seed		None		
Pedigree seed		Biodiversity loss: Yes___ _No_____ Chemical inputs: Yes___ No_____		
Fertilizer		Water pollution: Yes__ _ No_____		
Pedigree animals		None		
Animals for finishing		Overgrazing: Yes_____No___ Forest degradation: Yes____ No___		
Land preparation (tractor and machinery hire)		Soil erosion: Yes_____No_____		
Tractors		Soil compaction and erosion: Yes_____No____		
Other farm implements		None		
Small equipment		None		
Irrigation equipment and irrigation maintenance		Water extraction and salinization Yes_____No_____		
Primary processing equipment		Water pollution: Yes_____No_____		
Veterinary Services		Hormones and chemicals in meat: Yes____No___		

Table A -2.2: Agricultural Enterprise Screening Checklist

Broad Category	Will be Financed	Potential Impact			Mitigation measures	
			Yes	No	Yes	No
Agro-processing		water pollution safety and health				

		biophysical and cultural losses through location				
Medium Size Poultry and Livestock operations		Odor, waste management, animal and zoonotice disease control				
Market refurbishment or new market structure		Construction impacts Disturbance of important biophysical or cultural resources				
Agriculture equipment hire or purchase		Soil erosion and soil compaction as result of farm mechanization				
Irrigation systems		Desertification and depletion of water resources				
Other agribusiness		Variety of minor impacts although aquaculture could result in damage to aquatic ecosystems, particularly the loss of endemic fish species				
Agrotourism, ecotourism		biophysical losses construction impacts water pollution				

4. For the environmental impacts that were indicated above with a check, describe the mitigation measures that will be included during the construction (C) or operational (O) phase of sub-project or both (B).

Table A- 2.3: Environmental Mitigation Plan

Environmental impact (What is to be mitigated)	Sub-project Phase (C, O or B)	How and where will it be mitigated	Responsibility and cost

FORM 2 – ENVIRONMENTAL SCREENING CHEKLIST

(To be completed by PFI)

1. Sub-project name:

_____

2. Environmental Category (A, B or C), based on sub-project application form:

_____

(For Category B sub-projects, the PFI will refer the screening to the RRA)

3. Environmental assessment required (for B sub-projects): ___Yes/____No

4. What environmental issues raised by the sub-project:

_____

_____

_____

5. If an environmental assessment is required, what are the specific issues to be addressed?

_____

_____

_____

6. What is the time frame and estimated cost of conducting the environmental assessment?

_____

_____

_____

7. Date referred to RRA: _____

FORM 3 – FIELD VISIT CHECKLIST FOR CATEGORY B SUB-PROJECTS UNDER THE RURAL CREDIT COMPONENT

(*To be completed by RRA*)

Project Name: **Date/time of Visit:**
District: **Visitors:**

Location
- Obtain a site map or make a sketch
- Locate site on local map or indicate area (e.g. for grazing)

Current activity and site history
- Who is the site contact (name, position, contact information)?
- What is the area of the site to be used for project activities?
- What are current uses of the site?
- What were previous uses of the site (give dates if possible)?

Environmental Situation
- Are there sensitive sites nearby (nature reserves, cultural sites, historical landmarks)?
- Is anything known about the geology/hydrology of the site? Are there water courses on the site?
- What is the terrain or slope?
- Does the site experience flooding, waterlogging or landslides? Are there signs of erosion?
- What are the neighboring buildings (e.g., schools, dwellings, industries) and land uses? Estimate distances.
- Will the proposed site affect transportation or public utilities?

Licenses, Permits and Clearances
- Does the site require licenses or permits to operate the type of activity proposed? Are these available for inspection?
- What environmental or other (e.g., health, forestry) authorities have jurisdiction over the site?

Water Quality Issues
- Does the proposed activity use water for any purposes (give details and estimate quantity). What is the source?
- Will the proposed activity produce any effluent? (estimate quantity and identify discharge point)
- Is there a drainage system on site for surface waters or sewage? Is there a plan available of existing drainage or septic systems?
- How waste water is managed (surface water courses, dry wells, septic tanks)?

Soils
- What is the ground surface (agricultural land, pasture, etc.)?
- Will the project damage soils during construction or operations?
- Will the project affect the landscape significantly (draining wetlands, changing stream courses)

Biological environment
- Describe vegetation cover on the site.
- Is there information about rare or threatened flora and fauna at or near the site? If yes, would the project have an impact or increase risk to the species?
- Obtain a list of vertebrate fauna and common plants of the site (if available).
- Note potential negative impacts on biota if project proceeds.

Visual Inspection Procedures
- Try to obtain a site map or make a sketch to mark details.
- Take photos, if permitted.
- Walk over as much of the site as possible, including boundaries, to note adjacent activities.
- Note any odors, smoke or dust emissions, standing water, etc.

Recommended Mitigation Measures

- Confirm proposed mitigation measures or provide recommendations for satisfactory mitigation measures

ANNEX 3

ENVIRONMENTAL MITIGATION FOR CATEGORY B SUB-PROJECTS UNDER THE RURAL CREDIT COMPONENT

Likely Impacts, mitigation, and permissible limits of pollutants

Mitigation measures will be needed for category B mid-size credits.

Most farming, orchards, horticulture and forestry operations have the potential to harm the environment through the use of chemicals, and due to inappropriate land and water management. Credits for medium-scale agriculture activities (>50 ha) that use fertilizers, pesticides and other farm chemicals would be Environmental Category-B, and would require mitigation and monitoring plans.

Most processing facilities produce some form of pollution and need to treat their effluent, control dust and smoke, dispose of solid wastes, and limit noise pollution from the plant. They are also subject to health and safety laws, and require permits to operate. Most medium scale processing plants that are potential applicants for project funding would be Category-B.

In sub-projects where environmental mitigation is required, a typical environmental mitigation plan would be as shown in Table A- 2.3 in Annex 2.

The following headings cover the likely environmental impacts of different activities, possible mitigation of environmental issues, and guidelines on the permissible limits of various pollutants:

- Airborne pollution
- Waste water treatment
- Solid wastes
- Noise pollution
- Use of chemicals
- Irrigation and drainage
- Use of water for agriculture and industry
- Health and safety in the workplace

Table A-3.1: Some Agricultural Good Practices – Guidelines for a Protected Environment and Sustainable Agriculture (Farm Inputs)

Activity	Good Practices
Seed	- Selection of seed with lowest agro-chemical input requirements to achieve high yields - Selection of seed with minimal level of pest and disease vulnerability. rigorous sanitation facilities and procedures for imported seed - rigorous sanitation facilities and procedures for exported seed - Extension services provide advice on appropriate fertilizer and pesticide applications. Wherever possible, extension service to promote sustainable agricultural practices including IPM, minimum tillage, contour ploughing, crop rotations, and green manure.
Fertilizers	- selection of best fertilizers for crop and prevailing soil conditions - application levels as per recommended by manufacturer and extension service
Pesticides	- PFIs and CGS Secretariat will screen applications for credits and grants to ensure that no pesticides are financed. - Training on environmental due diligence for PFI staff will include familiarization with the national pesticide registration list. - Training and advisory services on integrated pest management (IPM) and safe handling and use of agricultural chemicals will be provided to farmers and agribusiness personnel under the Rural Training and Advisory Services component
Pedigree livestock	N/A
Livestock for finishing	- manure handling facilities designed to ensure zero runoff
Tractors	- purchase of engine efficient tractors that provide highest ratio of power and work to fuel input - tractors with high efficiency emissions control - tractors no larger than necessary for the most extensive work anticipated
Farm implements	- implements suitable for minimal tillage
Land preparation	- contour ploughing, minimum tillage, grassed waterways, etc.
Small equipment	- energy efficient equipment
Irrigation equipment	- highest efficiency equipment - equipment that assists in the use of irrigation water in an efficient manner
Farm buildings for stock, machinery, and chemicals	- Location of buildings where least disturbance of resources required. - energy efficient building design including heating, ventilation - building design to minimize materials and use of environmentally friendly materials
Fencing materials	N/A
Primary processing equipment	- high efficiency equipment including low emission fuels (e.g. gas, solar)
Fuel, lubricants, spare parts and other operating requirements	- safe storage of fuels, lubricants and chemicals
Veterinary services	- minimal use of drugs

Table A-3.2: Some Good Practices for Rural Enterprises – Guidelines for a Protected Environment and Sustainable Rural Development (Agri-businesses)

Enterprise Category	Good Practices
Agro-processing	- not to be located in environmentally sensitive areas - effective effluent management system in place - effective disposal of solid wastes - safety features in place
Other agribusiness	- aquaculture: .use of non-exotic species - effective disposal of animal wastes - use of local feed stocks - avoid use of sensitive water courses - avoid location on sensitive sites - effective waste disposal - safety precautions and systems during construction - control of effluents and emissions
Medium Size Poultry and Livestock operations	- manure management (composting, use as fertilizer, bio-gas digestro) and odor control - sanitary carcass and litter disposal - robust biosecurity measures and available veterinary services (staff or contractual)
Extractive industries – forestry and fisheries	- not be located in environmentally sensitive areas - extraction not to directly or indirectly harm other aspects of the ecosystem - forest and fishery harvesting to be conducted on a sustainable basis
Trade (wholesale and retail) – rural markets	- location of markets to take into account micro- environmental effects such as erosion and potential water contamination market operations to be guided by a printed and displayed list of good practices including waste disposal and sanitary procedures
Ecotourism, agrotourism	- environmentally sensitive areas not disturbed - hygiene standards to meet national requirements - energy efficient heating and cooking - safe work environment. proper disposal of wastes preventing water contamination, disease and vermin

ANNEX 4

ACCEPT/REJECT DECISION MAKING FOR SUB-PROJECTS UNDER THE RURAL CREDIT COMPONENT

It is the responsibility of the PFI to accept or reject a sub-project proposal on the grounds of environmental issues. The PFI will consult with the RRA environmental specialist in this regard. Providing that the sub-project has been adequately screened into Bank Categories B or C and that adequate EMP is proposed to mitigate significant environmental issues and adequately monitor the results of Category B projects, there should be no reason to reject a sub-project on environmental grounds.

If the sub-project is rejected on environmental grounds after an unsatisfactory site visit the proponent, at the discretion of the PFI, may submit an improved environmental proposal. Re-appraisal should be restricted to one iteration, and the proponent should not expect to make multiple applications on the basis of continues marginal improvements to the scheme. Any further consideration of the sub-project should be at the discretion of the PFI.

In some instances, however, there may be a number of environmental issues associated with a sub-project, and cumulatively the issues could be more serious than any one individual issue would indicate. For example, a sub-project may have several issues that individual screening would put in Category B or C. Cumulatively, however, the environmental issues may be more serious, and the sub-project may need a more stringent EMP, be screened into a higher Environmental Category or be rejected out of hand.

The PFI may use a checklist to provide a score of magnitude of impacts to produce a cumulative index. The higher the index the higher the environmental risk of the sub-project. Using Table-A4-1 as a guide and noting that each activity requires its own individual score – the cumulative score of impacts will provide the overall score for that sub-project.

Table A-4.1: Guideline for screening cumulative environmental impacts

Activity Risk	Significance of Impacts	Examples	Score
None	There is no detectable impact of any kind as a result of the activity	A procurement project with no direct impacts	0
Low	Small changes, measurable, usually confined to a small area, mitigation is simple or not necessary	Market facilities: small social disruption. Small scale processing, small scale farming; creates minor pollution	1
Low-moderate without mitigation	Measurable losses, or ecosystem disruption; ecosystem able to cope without mitigation	Small-medium scale agro-processing, livestock production, slaughter facilities; potential to produce some minor pollution	2

Moderate with mitigation	Measurable losses, or ecosystem disruption; Proposed EMP is adequate but in the event it is not fully used, ecosystem would be disrupted	Medium scale agro-processing, livestock production, slaughter facilities, most category B sub-project activities with potential for pollution or disruption	3
High	Substantial losses or ecosystem disruption: Ecosystem would probably still function at a lower level. EMP inadequate or difficult/costly to operate and maintain	Livestock overgrazing or deforestation causing land erosion. Paper mills, chemical mix plants, leather production etc	5

The sub-project may comprise many activities, and the cumulative score of the activities would indicate to the PFI the overall risk of the sub-project.

- If cumulative score is 5 or less the screened Environmental Category B for individual activities is probably adequate.
- If cumulative score is >5 the appraised Environmental Category may be inadequate, and additional requirements may be placed on the sub-project.

The applicant may be required to:

- Describe in detail the impacts likely to be experienced.
- Determine practical and reasonable EMP to be followed**.**
- Describe EMP measures to be taken, and good practices to be followed, to address impacts
- Prepare a monitoring schedule

The PFI will be required to:

- Discuss with RRA or Government environmental agency for input and support
- Ensure EMP is incorporated into sub-loan agreement.

The RRA will be required to:

- Supervise EMP implementation.
- Monitor activity on a regular basis.

ANNEX 5

ENVIRONMENTAL MONITORING FOR CATEGORY B SUB-PROJECTS UNDER THE RURAL CREDIT COMPONENT

Environmental monitoring for the overall project is addressed in the Monitoring section of the EMP above. Table below shows a typical environmental monitoring plan for selected sub-project.

Table A-5.1: Environmental Monitoring Plan

Project phase	What is to be monitored	How and where will it be monitored	Frequency of monitoring	Responsibility	Cost
Baseline					
Construction					
Operation					
De-commissioning					

FORM 1 – CHECKLIST FOR ENVIRONMENTAL MONITORING

(For random sampling monitoring by RRA)

1. Was an Environmental Assessment needed? (Y or N)___ If yes, was it done?___
   Have national and World Bank requirements for public consultation been met and fully documented? (Y or N) ___

2. Was an Environmental Management Plan prepared? (Y or N) ___

3. Are the mitigation measures to be included in project implementation adequate and appropriate? (Y or N) ___

4. Will the project comply with existing pollution control standards for emissions and wastes? (Y or N) _____ If No, will an exemption be sought? _____

5. Is an Environmental Monitoring Plan necessary? (Y or N) ___ If so, has it been prepared? (Y or N)

6. What follow-up actions are required by the proponent, the PFI or the RRA? _____
_____
_____

7. Were stakeholder consultations held concerning potential environmental impacts of the proposed sub-project? (Y or N) Were minutes recorded? (Y or N)

Dates	Participants
_____	_____
_____	_____
_____	_____

ANNEX 6

STAKEHOLDER CONSULTATION FOR CATEGORY B MID-SIZE CREDITS UNDER THE RURAL CREDIT COMPONENT

Consultation is essential in any circumstances where the sub-project will affect local communities or individuals that are not directly part of the sub-project.

The physical and social environment must not be changed to the detriment of local residents, and any changes must be with their agreement. Consultation will involve public participation of affected community members and NGOs. The sub-borrower must:

- Provide compensation to the community (replacement of public amenities etc)
- Fully consider cumulative impacts
- Deal with political and social problems associated with development
- Offer further consultation and participation with affected communities

In the event of public consultation, minutes are to be recorded of the discussions and records maintained of any public objections to the sub-project, together with the mitigating measures proposed by the sub-project proponent. The sub-borrower must provide the PFI with a report (where appropriate) describing the consultation with residents and of their support or rejection of the development plans.

ANNEX 7

TERMS OF REFERENCE FOR AN ENVIRONMENTAL ASSESSMENT

An environmental assessment report for a Category B project focuses on the significant environmental issues raised by a Sub-project. Its primary purpose is to identify those measures that, if incorporated into the design and implementation of a project can assure that the negative environmental effects will be minimized. The scope and level of detail required in the analysis depend on the magnitude and severity of potential impacts.

The environmental assessment report should include the following elements:

(a) *Executive Summary*. This summarizes the significant findings and recommended actions.

(b) *Policy, legal and administrative framework*. This section summarizes the legal and regulatory framework that applies to environmental management in the jurisdiction where the study is done.

(c) *Project Description*. Describes the nature and scope of the project and the geographic, ecological, temporal and socioeconomic context in which the project will be carried out. The description should identify social groups that will be effected, include a map of the project site, and identify any off-site or support facilities that will be required for the project.

(d) *Baseline data*. Describe relevant physical, biological and social condition including any significant changes anticipated before the project begins. Data should be relevant to project design, location, operation or mitigation measures.

(e) *Environmental impacts*. Describe the likely or expected positive and negative impacts in quantitative terms to the extent possible. Identify mitigation measures and estimate residual impacts after mitigation. Describe the limits of available data and uncertainties related to the estimation of impacts and the results of proposed mitigation.

(f) *Analysis of Alternatives*. Systematically compare feasible alternatives to the proposed project location, design and operation including the "without project" alternative in terms of their relative impacts, costs and suitability to local conditions. For each of the alternatives quantify and compare the environmental impacts and costs relative to the proposed plan.

(g) *Environmental Management Plan (EMP).* If significant impacts requiring mitigation are identified, the EMP defines the mitigation that will be done, identifies key monitoring indicators and any needs for institutional strengthening for effective mitigation and monitoring to be carried out.

(h) *Appendices.* These should include:

(i) The list of EA preparers;

(ii) References used in study preparation;

(iii) A chronological record of interagency meetings and consultations with NGOs and effected constituents;

(iv) Tables reporting relevant data discussed in the main text, and;

(v) A list of associated reports such as resettlement plans or social assessments that were prepared for the project.

In addition, the Terms of reference should specify the composition and qualifications of the study team, the duration of the studies, the scope and nature of any primary data collection and

field visits that will be required, and include a schedule of reporting and the nature and constituencies for consultations with stakeholders that are to be carried out.

ANNEX 8

UZBEKISTAN – RURAL ENTERPRISES SUPPORT PROJECT. PHASE-II
SUMMARY OF STAKEHOLDERS MEETING ON EMF
MARCH 15-18, 2008

As a part of World Bank Safegurd Policies proceduresm consultation with project stakeholders was held on March 15, 2008 with representatives of regional Basin Authority of Irrigation Systems and local Governor representatives followed with wider consultation on March 18, 2008 with State Government organizations, commercial organizations and NGO's in the Rural Restructuring Agency office in Tashkent (Uzbekistan).

Alisher Yuldashev, Deputy Director General of RRA, opened the meeting and informed the participants with RRA's current activities in the framework of the World Bank and ADB financed projects. Then Bekzod Parmanov made presentation of Rural Enterprise Support Project. Phase-I, including the environmental aspects of the project and continued informing participants with preparation of Phase-II. Following to this local team of experts involved in preparation of the project presented materials and works done for addressing environmental issues and presented summary of Environmental Management Framework.

A lively discussion followed on many aspects of the project; namely achievements of phase-I, monitoring system to be used for the second phase of the project particularly for the component of Irrigation and Drainage, undertaking local legislations and standards for both preparing the environmental assessments of rehabilitation works (OVOZ) and screening mechanism for checking sub-loans and implementation arrangements, etc. There were no significant comments received on the EMF as the project falls under Category "B". The major environmental impact that is expected from InD component activates is not expected to be high, as project is planned to rehabilitate existing infrastructure.

Below is the summary of stakeholders meeting and discussion on EMF:

Monitoring: For the purpose of improvement of monitoring and evaluation of the impact of irrigation and drainage component to the project zone, it was recommended to analyze the main water, soil and groundwater parameters for the purpose of monitoring during the execution of the works. This issue was raised by representative of SANIIRI, local NGO Ecoserivice, and State Committee for Nature Protection of R.Uz. This activity could be conducted semi-annually, annually, or in the beginning, mids and after the works completion, depending on the complexity of the rehabilitation works and budget that would be allocated by the project for monitoring activity purpose. However, at least baseline analysis needs to be done for the purpose of analyzing the changes and impact after project completes. In order to have detailed, thorough analysis it was recommended to involve local specialized, qualified laboratories that do research and tests. State land geodesy and cadastre Committee of R.Uz. offers these services and representative of this institution who was also invited for consultation shortly briefed participants about this activity.

Screening sub-loans: It is expected that Rural Finance Component of the project will not have significant environmental impact to the environment. Although project is not expected to finance any hazards substances and/or matters, such as chemicals, pesticides, fertilizers and etc, it was recommended by project preparation team to introduce screening mechanism to avoid any potential risks that could arise from financing various rural and farming activities. During the consultation, screening mechanism was discussed with the participants, where number of local commercial banks and representative of association of farmers raised the matter that, proposed screening checklists might not be adequately completed due to its complexity for farmers. It was recommended to simplify the checklists and to the extent possible adopt them to the local practices. Representative of local commercial bank "Pakhtabank" informed that it is a local requirement for borrower to have project approved by State Committee for Nature Protection of R.Uz, should the project fall into the certain category indicated in the resolution of Cabinet of Ministers of R.Uz. For example, it is not a requirement for borrower to have environmental assessment undertaken neither screen the loan application should the borrower consider purchasing tractor or similar equipments. Hence, screening mechanism should be simplified but not completely eliminated.

Participants raised the issue of conducting more training for the beneficiaries and increase the environmental awareness activities through the project. Although project is not planning to finance use of chemicals and pesticides, more awareness activities could be undertaken, such as training certain people that directly involve in supporting farmers in safe use and/or application of these inputs in the farm fields. Such organizations could be advisory centers, WUA, farmers and dehkan associations and etc. Special attention could be given to support district or oblast representatives of Plant Protection Center of R.Uz who are partially commercialized organization but having low capacity to handle large group of emerged independent farmers. Representative of Sanitary and epidemiologic center of R.Uz., supported the discussion to have more active involvement of local organizations at district level during preparation and implementation of the project.

Finally, representative of State Committee for Nature Protection of R.Uz stressed that, any construction and or rehabilitation works that is planned under InD component must obtain approval from the Committee prior to start of any civil works. It could be even in the form of framework analysis, but needs to comply with the structure and requirements of the local regulations.

During discussion with representatives of regional Basin Authority of Irrigation Systems and local Governor Representatives on March 15, 2008 similar discussion were carried out with more focus given to the activities to be undertaken under InD component. EMF was briefed during the meeting and mitigation measures, and required activities were discussed. It was also stressed that project will finance only rehabilitation of existing InD networks, including inter-farm and on-farm systems, and there is a need to have directly affected participants to involve in the selection and identification of objects for rehabilitation, particularly for on-farm rehabilitation works. In certain project area, respective authorities have already set up special team that would be in charge for working and cooperating with design and implementation team in the course of project preparation and these teams have already included certain representatives from local community.

During this consultation, participants stressed for need to support local Hydroameliorative Expeditions who are mainly in charge for monitoring the main water, soil and groundwater parameters and there is a need to support and increase the capacity of WUA's in taking more proactive role in operating & maintaining on-farm irrigation and drainage systems. Currently, in most of the places, WUA's are relatively weak and unable to O&M their own system adequately.

LIST OF PARTICIPANTS

#	Organization	Position	Name	Contact numbers
1.	State Committee of Examination, State Committee of Environmental Protection	Chief specialist	Bekmuratov B.	139-16-88 139-12-47
2.	"Ekoahborotistikbol" of State Committee of Environmental Protection	Key specialist	Turaev A.	150-03-38
3.	JS Commercial Bank "Gallabank"	Head of department	Olimjonov S.O.	233-74-87 111-44-11
4.	"UZGIP" Institute	Chief specialist	Khamzina T.	120-75-92
5.	"Uzsuvnazorat"	Head of department	Rakhimov A.	244-64-99
6.	Centre of Hydrometeorology	Senior staff scientist	Ananyeva K.V.	235-82-26
7.	State Committee of geodesic cadastre	Head of department	Bobomurodov S.M.	273-47-11
8.	State Committee of Environmental Protection	Chief specialist	Frank L.G.	139-48-13
9.	"SKS Consulting"	Team manager of Environmental Impact Assessment	Fralik L.V.	326-08-14
10.	"SKS Consulting"	Executor of Environmental Impact Assessment	Limanina I.D.	235-82-26
11.	"Ecoservis" scientific-consulting center	Director	Razakov R.M.	330-24-32
12.	SANIIRI	Deputy director	Mamatov S.A.	308-11-45 265-03-90
13.	Institute of water issues, Academy of Sciences of the Republic of Uzb.	Head of department	Yakubov M.A.	269-12-67 269-12-70
14.	Centre of environmental law "Armon"	Director	Zaynutdinova	253-11-35
15.	Centre of environmental law "Armon"	Researcher	Murzakhanov R.	253-11-35
16.	"Chinor&Co" Ltd., magazine "Ekologicheskiy vestnik" (Enviromental bulletin)	Director general	Nasirov M.	116-37-95
17.	"Chinor&Co" Ltd., magazine "Ekologicheskiy vestnik" (Enviromental bulletin)	Journalist	Азизов С.	116-37-95
18.	Ministry of Economics	Key specialist	Bagdasarova Y.	132-62-83
19.	Ministry of Economics	Deputy head of department	Mirkhabibov S.	132-64-56
20.	Association of Dekhan and Private farmers	Head of department	Abdusalomov Kh.	267-40-02 267-02-98
21.	Sanitary-and-epidemiologic center	Head of department	Ergashev G.N.	276-75-92
22.	MAWR	Head of department	Ibragimov R.P.	142-01-81
23.	Private JS Commercial Bank " "Hamkorbank"	Head of department	Hojimuradov S.	253-56-74
24.	Info Centre "Sreda obitaniya" (Environment)	Deputy chairman	Shulelina N.V.	237-05-18
25.	JS Commercial Bank "Pahtabank"	Head of department	Artikov S.	150-53-39
26.	Regional department of agriculture and water resources, Mirishkar, Kashkadarya	Deputy on water problems	Rizokulov B.N.	22-4-65
27.	UIS "Narin-Ferghana", Yazyavan, Ferghana	Head of water department	Ibragimov E.I.	8 373 412 21 65
28.	Regional department of agriculture and water resources, Andijan	Head of Oblast WUA	Shohhujaev F.Z.	2-24-37-84 2-24-45-61
29.	WUA, Pasdargom, Samarkand	WUA chairman	Umbarov H.	8 366 465 17 67
30.	UIS "Dargom", Pasdargom, Samarkand	Deputy chief	Karamatov N.	8 366 267 36 51
31.	BAIS "Lower Sirdarya", Syrdarya	Deputy chief	Mustanov A.I.	8 367 277 46 24 8 367 225 19 92
32.	UIS "Bayavut-Arnasay", Bayavut, Syrdarya	Head of department	Ahmatkulov H.A.	62-10-34
33.	Department of agriculture and water resources, Buka, Tashkent	Head of department	Alimov N.	8 370 573 51 65
34.	UIS "Amu-Karakul", Alat, Bukhara	Head of department	Агамуратов Н.	342-10-53
35.	Alat, Bukhara	Ameliorator	Boltayev S.	342-16-88

LIST OF PESTICIDES REGISTERED IN UZBEKISTAN **ANNEX 9**

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
	Insecticides and Acaridaecides				
1	Avaunt 15% s.k.	Dupon - USA	Indoksakarb	Cotton, mulberry, vine, tomato, apple	31.12.2009
2	Admiral 10% k.e.	Sumitomo Chemical - Japan	Piriproksifen	Cotton, cucumber, tomato, apple	31.12.2009
3	Adonis 4% k.e.	Bayer Invaiponmental Saens SAS - France	Fipronil	Potatoes, pasture, mulberry	31.12.2008
4	Regent 20% k.s.	BASF Agro BV - Switzerland	Fipronil	Potatoes, mulberry, potato	31.12.2011
5	Applaud 25% s.p.	Nihon Nohiaku - Japan	Buprofen	Cucumber, tomato, cotton	31.12.2009
6	Atilla 5% k.e. (R)	Agrokim Ltd - Uzbekistan	Lyambdachigalotrin	Cotton, vine, mulberry, cotton, vine,	31.12.2011
7	Karate 5% k.e.(R)	Singenta - Switzerland	Lyambdachigalotrin	Apple, cotton, vine, potatoes, wheat, lucerne, corn, soy, pasture, mulberкy	31.12.2007
8	Karate Zeon 5% k.e. (R)	Singenta - Switzerland	Lyambdachigalotrin	Cotton,potatoes, wheat, lucerne, corn, mulberry, pasture, vine	31.12.2007
9	Kurash 50 g/l, k.e. (R)	MM-Agro Corporation - USA	Lyambdachigalotrin	Wheat, apple, vine	31.12.2008
10	Bagira 20% k.e.	Agrokim Ltd - Uzbekistan	Imidakloprid	Cotton	31.12.2011
11	Dalprid 200 u/l v.k.	Dalston Associated SA - Panama	Imidakloprid	Cotton	31.12.2011
12	Imidor 200 g/l v.r.k.	Close Corporation Shelkovo AgroKhim	Imidakloprid	Cotton	31.12.2009
13	Konfidor 20% k.e.	Baer KropSaens - Germany	Imidakloprid	Cotton, tomato, patato, tobacco, pasture, apple, sugar-beet	31.12.2007
14	Koginor 20% k.e.	Makteshim Agan - Israel	Imidakloprid	Cotton, tomato, patato, tobacco, pasture, apple, sugar-beet	21.12.2010
15	Pilarking 20% k.e.	Pilar Agree Saens Corp. - Canada	Imidakloprid	Cotton, apple, patato,tomato, tobacco, pasture	31.12.2011
16	Tanrek 200 g/l v.p.k	Close Corporation August - Russia	Imidakloprid	Cotton, mulberкy	31.12.2009

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
17	Benzofosfat 30% s.p. (R), Benzofosfat 30% k.y. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Fozalon	Cotton, potato, aubergine, mulberкy, tomato, cabbage, Cruciferae's culture, sugar-beet, apple, pear, plum, cherry-tree, citrus, barley,lucerne, tobaco, rose, cloves, carnation	31.12.2008
18	Zolon 35% k.e.(R)	Keminova A/S - Denmark	Fozalon	Cotton, potato, aubergine, tomato, cabbage, Cruciferae's culture, sugar-beet, apple, pear, plum, cherry-tree, vine, citrus, wheat, barley, lucerne, tobaco, rose, carnation	31.12.2009
19	Bee-58 new 40% k.e.,	BASF - Germany	Dimetoat	Corn, wheat, barley, rye, oats, leguminous plants, apple, pear, plum, vine, citrus, sugar-beet, mangel-wurzel, beet, vegetable's culture, potato. Tobaco, makhorka, kenaf, lucerne	31.12.2009
20	Dalmetoat 40% k.e.	Dalston Associated SA - Panama	Dimetoat	Cotton	31.12.2011
21	Danadim 40% k.e.	JS company Keminova - Denmark	Dimetoat	*Cotton,* wheat, barley, rye, oats, leguminous plants, apple, [ear, plum, vine, citrus, sugar-beet, mangel-wurzel, beet, vegetable plants. Potato, lucerna, tobaco, makhorka, kenaf, mulberry	31.12.2009
22	Vanteks 6% s.k.	Day AgroSaense - USA	Gammazigalotrin	Cotton, mulberry	31.12.2007
23	Vertimek 1,8% k.e.	Singenta - Switzerland	Abamektin	Cotton, tomato, carnation,	31.12.2008
24	Pilarmektin 1,8% k.e.(R)	Pilar Agree Saens Corp. - Canada	Abamektin	Cotton, tomato, rose, vine	31.12.2011
25	Danitol 10% k.e. (R)	Sumitomo Chemical - Japan	Phenpropatrin	Cotton, mulberry, apple	31.12.2007
26	Datrin 20% k.e. (R)	AOYA Guy Zey - Chinese People's Republic	Phenpropatrin	Cotton	31.12.2010
27	Uzphen 20% k.e. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Phenpropatrin	Cotton	31.12.2009
28	Dargit 57% k.e. (R)	AOYA Guy Zey - Chinese People's Republic	Propargit	Cotton	31.12.2010
29	Omayt 57% k.e. (R)	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Propargit	Cotton, apple, citrus, vine, soy, sugar-beet, cherry-tree	31.12.2007

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
30	Omayt 570 EW 57% k.e.v. (R)	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Propargit	Cotton, apple, cherry-tree, peach, plum. Vine, tomato, potato	31.12.2010
31	Uzmayt 30% s.p. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Propargit	Cotton	31.12.2011
32	Uzmayt 57% k.e. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Propargit	Cotton,apple	31.12.2011
33	Deltaphos 36% k.e. (R)	Bayer KropSaens - Germany	Deltametrin+triazofos	Cotton, mulberry	31.12.2008
34	Dezis 2,5% k.e. (R)	Bayer KropSaens - Germany	Deltametrin	Cotton, sunflower, sugar-beet, tomato, corn, lucerne, Cruciferae's culture, tobaco, wheat, apple, pear, peach, vine, potato, cabbage, carrot, water-melon, melon, pasture natural growth, mulberry	31.12.2007
35	Dezis 10% k.e. (R)	Bayer KropSaens - Germany	Deltametrin	Tomato, vine, cotton, wheat, apple, mulberry	31.12.2009
36	Dezis 10% k.e. (R)	Bayer Invayronmental Saens SAS - France	Deltametrin	Pasture	31.12.2009
37	Pilardelta 2,5% k.e. (R)	Pilar Agree Saens Corp. - Canada	Deltametrin	Mulberry, pasture, tobaco, apple	31.12.2011
38	Diazinon 60% k.e. (R)	Nippon Kayaku - Japan	Diazinon	Wheat, rice	31.12.2009
39	Dimilin OF-6, 6% m.c	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Diflubenzoron	Wheat	31.12.2008
40	Dimilin 48% m.c	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Diflubenzoron	Wheat, pasture	31.12.2009
41	Zum 10% s.k.	Sumitomo Chemical - Japan	Etokcazol	Cotton	31.12.2009
42	Bitumen-sulphuric broth	Uzbnekistan	Polysulfide calcium	All cultivation	31.12.2007
43	Calipso 48% k.c.	Bayer KropSaens - Germany	Tiakloprid	Cotton, mulberry, apple, vine, tomato,	31.12.2009
44	Camelot 20% s.p.	Agrokim Ltd - Uzbekistan	Azetamiprid	Cotton, mulberry	31.12.2011
45	Mospilan 20% s.p.	Nippon Soda - Japan	Azetamiprid	Cotton, cucumber of covered soil, potato, sugar-beet, pasture, mulberry	31.12.2010
46	Pilarmos 20% s.p.	Pilar Agree Saens Corp. - Canada	Azetamiprid	Cotton, tomato of covered soil, pasture, mulberry	31.12.2011
47	Tagspilan 20% s.p.	Tagros Chemicals India Limited - India	Azetamiprid	Cotton, mulberry	31.12.2009

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
48	Karbofos 50% k.e. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Malation	Wheat, lucerna, apple, tomato, pasture, cotton, mulberry	31.12.2010
49	Phuphanon 57% k.e. (R)	Keminova A/S - Denmark	Malation	Wheat, rice, corn, pea pod, sugar-beet, beet, cotton, apple, pear, quince, cherry, plum, cherry-tree, unfruitful garden, currants, raspberries, strawberries, vine, cabbage, tomato, cucumber, melon, water-melon, lucerna, tobaco, makhorka, sunflouer, soy, peanut, sesame, citrus, agricultural, natural growth, mulberry, fruit's culture, berrie culture	31.12.2008
50	Kinmix 5% k.e. (R)	Agro-Kemy - Hungary	Beta-zipermetrin	Cotton, pasture, potato, cabbage, wheat, vine, apple, plum	31.12.2009
51	Kurakron 50% k.e.	Singenta - Switzerland	Prophenophos	Cotton	31.12.2009
52	Lanser 75% r.p.	United Phosphorus - India	Azephat	Cotton	31.12.2011
53	Orten 75% r.p.	Arista Life Saens SAS - France	Azephat	Tobaco	21.12.2011
54	Lumetrin 12% k.e.	Jangzyagang Red Syn International Co Ltd - China	Beta+zipermethby+chlorpirifos	Cotton, apple, cabbage	31.12.2007
55	Marshall 25% k.e.	FMS - USA	Carbosulfan	Sugar-beet	31.12.2007
56	Mitak 20% k.e.	Arista Life Saens SAS - France	Amitraz	Cotton, Apple, Vine, pear, peach, tomato	31.12.2007
57	Neoron 50% k.e.	Singenta - Switzerland	Brompropilat	Cotton, vine,apple, citrus, currants	31.12.2007
58	Nissoran 5% k.e.	Nippon Soda - Japan	Geksitiazoks	Cotton, apple	31.12.2009
59	Nissoran 10% k.e.	Nippon Soda - Japan	Geksitiazoks	Cotton, apple	31.12.2009
60	Nomolt 15% s.k.	BASF - Germany	Tephlubenzuron	Pasture	31.12.2008
61	Nurell-D 55% k.e. (R)	Day AgroSaense - USA	Zipermetrin+chlorpiriphos	Cotton, apple, wheat	31.12.2007
62	Sayeren-s 55% k.e.(R)	Ceraminova A/S - Denmark	Zipermetrin+chlorpiriphos	Cotton, apple,	31.12.2008
63	Tagrell B 55% люую	Tagros Chemicals India Limited - India	Zipermetrin+chlorpiriphos	Cotton, apple, wheat	31.12.2009

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
64	Urell-D 55% k.e.	United Phosphorus - India	Zipermetrin+chlorpiriphos	Cotton, apple,	31.12.2011
65	Zipi Plus 55% k.e.	Agrotrade - Bulgary, Agrorus - Russia	Zipermetrin+chlorpiriphos	Cotton, apple,	31.12.2011
66	Ziperphos 55% k.e.	JV Close Corporation Elektrokhimzavod - Uzbekistan	Zipermetrin+chlorpiriphos	Cotton, apple, wheat, mulberry	31.12.2010
67	Ortus 5% S.K.	Nikhon NoKhiaku - Japan	Phenproksimat	Cotton	31.12.2011
68	Pillarstar 10% k.e.	Pilar Agree Saens Corp. - Canada	biphentreen	Cotton, apple,	31.12.2011
69	Talstar 10% k.e.	FMS - USA	biphentreen	Cotton, apple, tomato, mulberry	31.12.2009
70	Pirinex 40,8% k.e.	Makteshim-Agan - Israel	Chlorpiriphos	Cotton, apple,	31.12.2009
71	Polytreen K 31,5% k.e.	Singenta - Switzerland	Prophenophos+lyambdazig alotrin	Cotton, mulberry, pasture	31.12.2009
72	Polo 50% k.s.(R)	Singenta - Switzerland	Diaphentiuron	Cotton	31.12.2010
73	Preparation №30 76% petroleum emulsion	PhGUP VNII ChSZR - Russia	petroleum oil	Cotton, apple, pear, cherry, cherry-tree, plum, decorative plants, currants, raspberries, citrus, vine, decorative plants	31.12.2011
74	Segra 80% s.p. (fine-dyspersated)	Agrokim Ltd - Uzbekistan	sulfur	Cotton	31.12.2011
75	Sulfur shredded	Shorsyiskoe GHO - Uzbekistan	sulfur	All cultivation	31.12.2008
76	Sumy-alfa 5% k.e.	Sumitomo Chemical - Japan	esphenvalerat	Cotton, apple vine, potato, cabbage, barley, wheat, rape, agricultural plants, natural growth	31.12.2007
77	Esphen-Alpha 5% k.e.(R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	esphenvalerat	Potatoes, cotton, wheat, apple, cabbage, pasture	31.12.2009
78	Sumy-alfa 20% k.e.	Sumitomo Chemical - Japan	esphenvalerat	lucerna, wheat, pasture, mulberry, cotton	31.12.2007
79	Sumition 50% k.e.	Sumitomo Chemical - Japan	Phenitrotion	Wheat	31.12.2011
80	Superkill	Agrephar AS - Belgium	Zipermetrin	Cotton, apple, vine, tomato, cucumber, cabbage, potato, soy, lucerna, wheat	31.12.2011
81	ZIPI 25% k.e.(R)	Agrotrade - Bulgary, Agrorus - Russia	Zipermetrin	Cotton, apple, vine, tomato, cucumber, cabbage, potato, Cruciferae's culture, sugar-beetsoy, lucerna, maize, pasture, water-melon, melon, carrot, wheat	31.12.2011

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
82	Zirax 25% k.e. (R)	United Phosphorus - India	Zipermetrin	Cotton, apple, vine, tomato, cucumber, cabbage, Cruciferae's culture, potato, sugar-beetsoy, lucerne, maize, water-melon, melon, carrot, wheat, mulberry	31.12.2010
83	Zipermetrin 25% k.e. (R)	JV Close Corporation Elektrokhimzavod - Uzbekistan	Zipermetrin	Cotton, apple, cabbage, potato, lucerne, wheat, pasture	31.12.2010
84	Sherpa 25% k.e. (R)	Baer KropSaens - Germany	Zipermetrin	cotton, apple, potato, pasture, natural growth	31.12.2008
85	Titaron 30% s.k.(R)	Nippon Soda - Japan	Phluakripirim	Cotton	31.12.2007
86	Tramp 10% k.s. (R)	Tagros Chemicals India Limited - India	Alphazipermetrin	Cotton, pasture	31.12.2009
87	Phastak 10% s.k.(R)	BASF Agro BV - Switzerland	Alphazipermetrin	Cotton, pasture, potato,	31.12.2011
88	Phaskord k.e. 100 g.l. (R)	Close corporation Shelkovo Agrochim - Russia	Alphazipermetrin	Cotton, mulberry, wheat, pasture	31.12.2010
89	Phenkill 20% k.e. (R)	United Phosphorus - India	Phenvalerat	Cotton, apple, vine, currants, potato, cabbage, rape, lucerne, perennial plants, maiz, wheat, barley, carrot, melon, pasture, natural growth	31.12.2011
90	Phlumayt 20% k.c.	Agro-Kemy - Hungary	Phluphenzin	Cotton	31.12.2007
91	Ph'yry 10% v.k. (R)	FMS - USA	Zetazipermetrin	Cotton, potato, apple, vine, cabbage, pasture, mulberry	31.12.2010
92	Endgeo 24,7% k.c.	Singenta - Switzerland	Tiametoksam+lyambdaziga lotrin	Cotton, mulberry	31.12.2009
94	Alto Super 33% k.e.	Singenta - Switzerland	Ziprokonazol+propikonazol	Wnter wheat	31.12.2010
95	Bayleton 25% s.p. (R)	Bayer KropSaens - Germany	Triadimephon	Wheat, barley, maize, oats, sugar-beet, cucumber, melon, tomato, apple, vine, strawberries, rose, plum, cherry-plum	31.12.2008
96	Batyr 25~~% s.p.~~	MM-Agro Corporation - USA	Triadimephon	Apple, vine	31.12.2008
97	Bamper 25% k.e.	Makteshim Agan - Israel	Propikonazol	Vine, wheat	31.12.2009
98	Krest 25% k.e.	Tagros Chemicals India Limited - India	Propikonazol	Winter wheat, vine	31.12.2010
99	Bordeaux mixture	Uzbekistan	sulphate copper+calcium hydroxide	Apple, pear, quince, apricot, peach, plum, cherry, cherry-tree, vine, currants, citrus,	31.12.2007

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
				potato, tomato, cucumber, melon, water-melon, sugar-beet, beet, mangel-wurzel, onion, lucerne	
100	Vectra 10% s.k.	Baer KropSaens - Germany	Bromikonazol	Vine, apple	31.12.2010
101	Green vitriol 53% r.p.	NGMK - Uzbekistan	Ferric sulfate	Apple, pear, vine	31.12.2008
102	Lime sulphuric broth	Uzbekistan	Pollysulphid Calcium	Apple, pear, vine, cherry, plum, apricot, cucumber, pea pod, haricot, sugar-beet, raspberries, rose	31.12.2007
103	Impact 25% c.k	Keminova A/S - Denmark	Phlutriaphol	Apple, winter wheatvine	31.12.2011
104	Kolosal k.e. (250 g/l tebukonazola)	Close corporation August - Russia	Tebukonazol	Vine, winter wheatvine	31.12.2009
105	Blue vitriol 98% r.p.	AGMK - Uzbekistan	sulphate copper	Apple, pear, apricot, peach, plum, cherry-tree, cherry, currants	31.12.2008
106	Pilacur 25% k.e.	Pilar Agree Saens Corp. - Canada	Tebukonazol	Wheat, vine	31.12.2011
107	Previkur SL 60,7 % v.p.	Baer KropSaens - Germany	Propamokarb gidrochlorid	Cotton , tomato,	31.12.2010
108	Reks 49,5% k.c. (R)	BASF - Germany	Epoksikonazol+tiophanatmetil	Winter wheat	31.12.2008
109	Consul 12,5% k.c.	BASF - Germany	Epoksikonazol	Winter wheat	31.12.2011
110	Saprol 20% k.e. (R)	BASF - Germany	Triphorin	Apple, vine	31.12.2010
111	Segra 80% s.p. (fine-dyspersated)	Agrokim Ltd - Uzbekistan	sulfur	Vine	31.12.2011
112	Sulfur ground	Shorsyiskoe GHO - Uzbekistan	sulfur	All cultivation	31.12.2008
113	Titul 390 люлюк (390 п/д)	Close corporation Shelkovo Agrochim - Russia	propikonazol	Winter wheat, vine	31.12.2010
114	Topaz 10% k.e.	Singenta - Switzerland	Penkonazol	Cucumber, vine, apple, pear, peach, strawberries, tomato	31.12.2007
115	Topsin-M 705 c.p. (R)	Nippon Soda - Japan	Tiophanatmetil	Cucumber, apple, vine, rice	31.12.2009
116	Phalkon 46% k.e.	Baer KropSaens - Germany	Tebukonazol+spiroksamin+triadimenol	Winter wheat	31.12.2007
117	Pholikur BT 22,5 k.e.	Baer KropSaens - Germany	Tebukonazol+Triadimephon	Wheat, rice, vine	31.12.2011

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
118	**Chemicals for seed processing before sowing**				
119	Avalanche 70% s.p.	Tagros Chemicals India Limited - India	imidakloprid	Cotton	31.12.2010
120	Gaucho 70% c.p.	Baer KropSaens - Germany	imidakloprid	Cotton	31.12.2009
121	Dalucho 70% c.p.	Dalston Associated SA - Panama	imidakloprid	Cotton	31.12.2011
122	Baraka 60% p.c.	privately owned enterprise Baraka - Uzbekistan	natrium solt cotton's soapstoka	Winter wheat, cotton	31.12.2009
123	Bakhor 93% v.r.p.	Navkar Service - Uzbekistan	ammonium salt salicylic acid	Cotton, winter wheat,	31.12.2010
124	Blumovit v.g/	privately owned enterprise Amari Orxid Farma - Uzbekistan	bacterium+antagonist+humus+microelement	Cotton	31.12.2011
125	Bronotak 12% p.	Baer KropSaens - Germany	bronopol	Cotton	31.12.2007
126	Bronopol 12% p.	JV Close Corporation Elektrokhimzavod - Uzbekistan	bronopol	Cotton	31.12.2007
127	Dabron 12% p.	AOYA Guy Zey - Chinese People's Republic	bronopol	Cotton	01.01.2010
128	Dalbron 12% p.	Dalston Associated SA - Panama	bronopol	Cotton	02.01.2011
129	Bugdoydor 2% k.c.	JV Close Corporation Elektrokhimzavod - Uzbekistan	dinikonazol	Winter wheat	31.12.2010
130	Vial TT 12,9% v.c.k	Close corporation August - Russia	tebukonazol 60 g/l + tiabendazol 80 g/l	Winter wheat	31.12.2009
131	Vinzit 5% c.k.	Keminova A/S - Denmark	Phlutriaphol+tiabendazol	Winter wheat	31.12.2010
132	Vitavaks 200 75% c.p.	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Karboksin-tiram	Wheat, cotton	31.12.2009
133	Vitavaks 200 FF 34% v.c.k.	Krompton(Uniroyal Chemical) Registrations Ltd - UK	Karboksin-tiram	Wheat, cotton, winter wheat	31.12.2009
134	Vitaroc 34% v.c.k/	Close corporation August - Russia	Karboksin-tiram	Cotton, winter wheat	31.12.2009
135	Dalvaks 34% v.c.k.	Dalston Associated SA - Panama	Karboksin-tiram	Cotton	31.12.2011
136	Gaucho 58,5% c.p.	Baer KropSaens - Germany	Imidakloprid+penzikuron+tiram	Cotton	31.12.2008
137	GMK 30% p.	NPP Print-TM - Uzbekistan	natrium salt humic acid +	Cotton	31.12.2009

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
			sulphate copper		
138	Darmon-4 25-30% p/	Agrokimyo Lyuks Ltd - Uzbekistan	mixture of natrium salt kapron & carbolic acid	Cotton	31.12.2009
139	Dividend 3% k/c/	Singenta - Switzerland	Diphenokonazol	Winter wheat	31.12.2007
140	Sidigard 3% k.c	Paridgat Adgensys - India	Diphenokonazol	Winter wheat	31.12.2011
141	Dividend star 036 FS 3.6%	"Singenta", Switzerland	Diphenol + conasol + ziproconasol	Winter wheat	31.12.2007
142	Dividend extrim 115 FS 11.5%	"Singenta", Switzerland	Diphenol + conasol + mefenocsam	Winter wheat	31.12.2009
143	Dorilin 10%	IHRV under AS, Uzbekistan	Copolymer fibers of nitron with nitrolignin and copper sulfate	Cotton	31.12.2011
144	Zirh 36%	Close joint-stock company "Avgust", Russia	Bronopol	Cotton	31.12.2011
145	Kisan, 30%	"United Phosforus", India	2 -(tiocyanometiltio) benzotiasol	Cotton	01.01.2011
146	Cruiser 350 FS 35%	"Singenta", Switzerland	Triametoksam	Cotton	31.12.2009
147	Medal 35%	"Paridjat Adjensis", India	Triametoksam	Cotton	31.12.2011
148	Lomardor 40%	"Bayer KropScience", Germany	Tebukonasol+proticonasol	Winter wheat	31.12.2009
149	Lancer 80%	"United Phosforus", India	Acefat	Cotton	31.12.2011
150	Dalwtfat 80%	"Dalston Associated SA", Panama	Acefat	Cotton	31.12.2011
151	Maxim XL035 FS, 3.5%	"Singenta", Switzerland	Fludiocsonil+metfenoksam	Cotton	31.12.2009
152	Marchal 40%	"FMSi", USA	Karbosulfan	Cotton	31.12.2007
153	Moncern 25	"Bayer Krop Science", Germany	Pencicuron	Cotton	31.12.2008
154	Navruz 10%	IHRV under AS, Uzbekistan	Triterpen acid	Cotton	31.12.2009
155	Orten 75%	"Arista life Science SAS", France	Acephan	Cotton	31.12.2011
156	P-4 65%	OOO "Agrokhim" Uzbekistan	Dimetilol-carbamid	Cotton	31.12.2010

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
157	Panoktin 35%	"Maktechom Agan", Israel	Guazatin	Cotton	31.12.2009
158	Panoktin 35%	"Maktechom Agan", Israel	Guazatin	Winter wheat	
159	Pahta 42%	OOO"Ecokimyokurilishkhizmat", Uzbekistan	Mono, di, trietanolamines	Cotton	31.12.2011
160	Pahta M 20%	OOO "Versel Kafolat", Uzbekistan	Mono, di, trietanolamines	Cotton	31.12.2010
161	Polysand 62.5%	Chemical and polymer institute under AS, Uzbekistan	Oxadikcil	Cotton	31.12.2011
162	Previcur SL 60.7%	"Bayer KropScience", Germany	Propamocarb hydrochloride	Cotton fine-fibre	31.12.2010
163	Premis 2.5%	"BASF AgroBV", Switzerland	Triconasol	Wheat	31.12.2011
164	Paksill 60 FS 6%	"Bayer KropScience", Germany	Trebukonasol	Winter wheat	31.12.2007
165	Bunker 60 g/l	Close joint-stock company "Avgust", Russia	Trebukonasol	Winter wheat	31.12.2010
166	Vinner 6%	"Tagros Chemical India Ltd"	Trebukonasol	Winter wheat	31.12.2010
167	Grinasol 6%	"Djangczyang Red Sun international Traiding Co. Ltd." Chinese People's Republic	Trebukonasol	Winter wheat, spring wheat	31.12.2009
168	TEBU 60 ME 60 g/l	Close joint-stock company "Shelkovo Agrokhim", Russia	Trebukonasol	Winter wheat	31.12.2009
169	Paksil new, 2.5%	"Bayer KropScience", Germany	Trebukonasol	Winter wheat	31.12.2007
170	Sumy-8 2% FLO	"Sumitomo Chemical", Japan	Dinoconasol - M	Winter wheat, spring wheat	31.12.2011
171	Topsin-M 70%	"Nippon Soda", Japan	Triophfanatmetil	Winter wheat	31.12.2011
172	UzHitAN 2%	Chemical and polymer institute under AS, Uzbekistan	Hitosan	Cotton	31.12.2009
173	Himoya 10%	OOO"Ecokimyokurilishkhizmat", Uzbekistan	Polychloriodine	Cotton	31.12.2011
174	Himoya - C 31.5%	OOO"Ecokimyokurilishkhizmat", Uzbekistan	Polychloriodine +2 acetatethanolamine	Cotton	31.12.2011
175	Emmisar 250 g/l	Close joint-stock company "Shelkovo Agrokhim", Russia	Bronopol	Cotton	31.12.2011

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
176	Nematicids				
177**	Vidat L 24%	"Dupon" USA	Oxamil	Tomato for hothouse	31.12.2011
178	Mokal 10%	"Bayer KropScience", Germany	Exoprol	Tomato for hothouse, Cucomber for hothouse	31.12.2008
179	EZO 10%	OOO "Euriteam" Uzbekistan - Germany	Exoprol	Cucomber for hothouse	31.12.2011
180	Lepidocid, p/ BA-3000 EA/mg	Institut of microbiology under Academy of Scince, Uzbekistan	Bacillus thuringiensis var. kur-staki strain U56	Tomato	31.12.2011
181	Rodenticids				
182	Isocin MK (3g/l) (P)	Close joint-stock company "Shelkovo Agrokhim", Russia	Isopropilpfenacin	Field with rodent	31.12.2010
183	Armigal 2 mg	IBOH under Academy of Scince, Uzbekistan	Cis - 11 - gexadecenal +cis - 9 - gexadecenal	Tomato, Cotton, maize, тобак	31.12.2010
184	Armigal 2 mg	"Rukim" Moldova	Cis - 11 - gexadecenal +cis - 9 - gexadecenal	Cotton	31.12.2008
185	Armigal 2 mg	"MobilUZ - group" Uzbek-American joint enterprise	Cis - 11 - gexadecenal +cis - 9 - gexadecenal	Cotton	31.12.2009
186	Atracon PF 0.45mg	"Rukim" Moldova	Trance-10, trance-12, cis-14 -gexadectrienilacetate	Mulberry-tree	31.12.2008
187	Mulberry-tree PF 1.5 mg	"MobilUZ - group" Uzbek-American joint enterprise	Acetatetrance - 10, trance-12, cis-14 - gexadectrienilacetate	Mulberry-tree	31.12.2010
188	Herbicide				
189	Alienza 600g/l	"Bayer KropScience", Germany	Fluortamon	Cotton	31.12.2008
190	AMIR 50%	"Parijat Agentcis" India	Acetochlor	Cotton	31.12.2011
191	Dachlor 50	AOYA "Juy Zei", Chinese People's Republic	Acetochlor	Cotton	31.12.2008
192	Arsenal 25% (R)	BASF, Germany	Imasapir	Land for no-agricultural needs	31.12.2011
193	Aasirius 40%	OOO "Agrokhim" Uzbekistan	Bispiribak natrium	Rice	31.12.2011
194	Nominy 400 g/l	"Kumiay Chemical", Japan	Bispiribak natrium	Rice	31.12.2009

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
195	Atlantis 3.6%	"Bayer KropScience", Germany	Mesosulfuron metil natrium +iodinesulfuron metil natrium	Winter wheat	31.12.2007
196	Bazagran 48%	BASF, Germany	Bentazon	Wheat, rye, barley, rice, maize	31.12.2009
197	Banvel 24%	Joint venture "Electrochimsavod" Uzbekistan	Dicamba	Maize, wheat, rye, barley, oats	31.12.2010
198	Basta 14% ®	"Bayer KropScience", Germany	Glupfocinat ammonium	Horticultural crops, vineyard, citrus plants, berry plantation	31.12.2007
199	Biozin 360+22.2g/l	OOO"Ecokimyobioservis", Uzbekistan	Dicamba + chlorsulfuron	Winter wheat	31.12.2011
200	Fenizan 360+22.2g/l	Close joint-stock company "Shelkovo Agrokhim", Russia	Dicamba + chlorsulfuron	Winter wheat	31.12.2009
201	Biostar 75%	OOO"Ecokimyobioservis", Uzbekistan	Tribenuronmetil	Winter wheat	31.12.2011
202	Dalstar 75%	"Dalston Associated SA", Panama	Tribenuronmetil	Winter wheat	31.12.2011
203	Ekstrim 75%	"Tagros Chemicals India"	Tribenuronmetil	Winter wheat	31.12.2010
204	Grandstar 75%	"Dupon" USA	Tribenuronmetil	Winter wheat, spring wheat, barley	31.12.2009
205	Gezagard 50 50% ®	"Singenta", Switzerland	Prometrin	Cotton, potatoes, carrot, celery, dill, parsley	31.12.2007
206	Gezagard 50Z%	"Singenta", Switzerland	Prometrin	Cotton in hothouse	31.12.2007
207	Dalzak 7,5%	"Dalston Associated SA", Panama	Fenocsaprop-p-etil+antidot	Winter wheat	31.12.2011
208	Lastik 70 g/l	Close joint-stock company "Avgust", Russia	Fenocsaprop-p-etil+antidot	Winter wheat	31.12.2011
209	Puma super 7.5%	"Bayer KropScience", Germany	Fenocsaprop-p-etil+antidot	Winter wheat, spring wheat	31.12.2011
210	Dalzlak super	"Dalston Associated SA", Panama	Fluasiphop - butil	Cotton	31.21.2011
211	Flusilad super 12,5%	"Singenta", Switzerland	Fluasiphop - butil	Soy, white beet, table beet, mangel, carrot, onion of all generation, sunflower, cotton, tomato, cabbage, cucumbers, horticultural crops, vineyard, citrus plants	31.12.2011
212	Fuzilad forte 15%	"Singenta", Switzerland	Fluasiphop - butil	Cotton, white beet, apple-tree, vine, tomato	31.12.2011

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
213	Dalzlak extra 104 g/l	"Dalston Associated SA", Panama	Galaxiphop-R-metil	Cotton	31.12.2011
214	Zellec super 104 g/l	"Dau AgroScience", USA	Galaxiphop-R-metil	Cotton, white beet, mangel, carrot, onion of all generation, potatoes	31.12.2009
215	Gliphos 360 g/l	"Keminava A/C" Denmark	Gliphosat	Wheat, barley, cotton, land for no-agricultural needs	31.12.2010
216	Flophogan 360 g/l	"Maktechim Agan", Israel	Gliphosat	Wheat, cotton	31.12.2009
217	Daphostat 360 g/l	AOYA "Juy Zei", Chinese People's Republic	Gliphosat	Fields for cotton and grain-crops	31.12.2010
218	Raundal 360 g/l	"Monsanto" USA	Gliphosat	Fields for grain-crops, land for no-agricultural needs	31.12.2011
219	Uragan Forte 500 g/l	"Singenta", Switzerland	Gliphosat	For fields for agricultural and no-agricultiral needs, vineyard	31.12.2008
220	Goltix 70%	"Bayer KropScience", Germany	Metametron	Sugar-beet	31.12.2008
221	Grandstar 75%	"Dupon" USA	Tribenutronmetil+triphensulphuronmetil	Winter wheat	31.12.2011
222	Gulliver 50%	"Dupon" USA	Azimsulphuron	Rice	31.21.3009
223	Dimet 500 g/l	Close joint-stock company "Avgust", Russia	Metsulphuronmetil 45 h/l + dicamba 455 g/l	Winter wheat	31.12.2010
224	Derby 175 SC 17,5%	"Dau AgroScience", USA	Phlumetsulam + phlorasulam	Wheat	31.12.2009
225	Cotoran 80%	"Agan Chemical Manufactures" Ltd. Israel	Phluometuron	Cotton	31.12.2007
226	Cotonex 80%	"Maktechim Agan", Israel	Phluometuron	Cotton	31.12.2010
227	Cotoran 80%	Joint venture "Electrochimsavod" Uzbekistan	Phluometuron	Cotton	31.12.200
228	Londax 60%	"Dupon" USA	Bensulphuronmetil	Rice	31.21.2009
229	Magnum 600 g/l	Close joint-stock company "Avgust", Russia	Metsulphuron	Wheat of indispensable condition sowing the next year	31.13.2009
230	Nabu 20%	"Nippon Soda", Japan	Svetoxidim	Onion, carrot, cotton	31.12.2009
231	Nitran 30%	Joint venture "Electrochimsavod" Uzbekistan	Triphluralin	Cotton, soy, cabbage, tomato, tabaco, eggplant, pepper, garlic, onion (seeds), cucombers, carrot	31.12.2008

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
232	Triflurex 48%	"Agan Chemical Manufactures" Ltd. Israel	Triphluralin	Cotton, tomato	31.12.2009
233	Ovsugen extra 140 + 35 g/l	Close joint-stock company "Shelkovo Agrokhim", Russia	phenoxaprop-p-etil+antidot	Winter wheat	31.12.2011
234	Ordam 6E 72%	"Singenta", Switzerland	Molinat	Rice	31.12.2010
235	Pantera 40 g/l	(Uniroyal chemical) Registrations Ltd. UK	Quisalophop - tephuril	Cotton, sugar-beet	31.12.2011
236	PIK, 75%	"Singenta", Switzerland	Prosulfuron	Winter wheat	31.12.2010
237	Rainbou 2.5%	"Dau AgroScience", USA	Penoxulam	Rice	31.12.2007
238	Samuray 33%	"Parijat Avencis" India	Pendimetalin	Cotton, maize, potatoes, onion, carrot	31.12.2011
239	Stomp 33%	BASF, Germany	Pendimetalin	Onion for all generation, cotton maiz, carrot, potatoes	31.12.2010
240	Satorn 50%	"Kumiay Cemical" Japan	Bentocarb	Rice	31.12.2009
241	Serto plus 75%	BASF, Germany	Dicamba + tritosulphuron	Winter wheat, barley	31.12.2007
242	Sirius 10%	"Nissan Chemical" Japan	Pirasosulphurontil	Rice	31.12.2010
243	Strane 200 20%	"Dau AgroScience", USA	Phluroxipir	Winter wheat, maize, onion	31.12.2009
244	Stapl 85%	"Kumiay Cemical" Japan	Pirotiobak natriy	Cotton	31.12.2010
245	Targa super 5%	"Nissan Chemical" Japan	Hisalophotopetil	Cotton, patatoes, tomato, cucomber	31.12.2009
246	Titus 25%	"Dupon" USA	Rimsulphuron	Maize	31.12.2009
247	Topic 8%	"Singenta", Switzerland	Clodinaphop propargil + clocvintocent metil	Winter wheat	31.12.2010
248	Hussar 5%	"Bayer KropScience", Germany	Iodinesulphuron - metil - natriy	Winter wheat	31.12.2009
249	Centurion 25.4%	"Arista life Science SAS", France	Cletodim	Cotton, sugar-beet, onion	31.12.2010
250	Cefat 25%	Joint venture "Electrochimsavod" Uzbekistan	Cvinclorac	Rice	31.13.2011
251	Shogun 10%	"Maktechim Agan", Israel	Propahisaphop	Cotton	31.12.2007

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
252	**Defoliants and Desiccant**				
253	Avguron 500 g/l	Close joint-stock company "Avgust", Russia	Tidiasuron	Cotton middle-fibre	31.12.2009
254	Avguron exrta 540 g/l	Close joint-stock company "Avgust", Russia	Tidiasuron (360 g/l) + diouron (180 g/l)	Cotton middle-fibre	31.12.2009
255	Dalron super SK	"Dalston Associated SA", Panama	Tidiasuron (360 g/l) + diouron (180 g/l)	Cotton middle-fibre	31.12.2011
256	Jinstar 540 g/l	"Bayer KropScience", Germany	Tidiasuron (360 g/l) + diouron (180 g/l)	Cotton middle-fibre	31.12.2009
257	Yanichar SK	Close joint-stock company "Shelkovo Agrokhim", Russia	Tidiasuron (360 g/l) + diouron (180 g/l)	Cotton middle-fibre	31.12.2011
258	Dropp 50%	"Bayer KropScience", Germany	Tidiazuron	Cotton middle- and fine- fibre	31.12.2007
259	Dropp ultra 18%	"Bayer KropScience", Germany	Tidiazuron + diuron	Cotton	31.12.2010
260	Kabuki 2.5%	"Nihon Nohiaku", Japan	Piraphluphenetil	Cotton	31.12.2009
261	Mezon, 53%	IONH, uzbekistan	Chlorat natrium	Cotton middle-fibre	31.12.2011
262	Optim - 2 70%	TIIM, UzNIISGPZ, Uzbekistan	Phenilammoniy 2 chlor etil phosphonat	Cotton middle-fibre	31.12.2009
263	Reglon Super 15%	"Singenta", Switzerland	Dicvat	Cotton middle-fibre	31.12.2011
264	Rivet 24%	"FMCi" USA	Carventrazon - etil	Cotton middle-fibre	31.12.2009
265	Sadaf 70%	IO-NH OOO"Ecokimyobioservis", Uzbekistan	Tricarbamidohlorat natriy	Cotton middle-fibre	31.12.2010
266	Sadaf - K 96.6%	IO-NH, Uzbekistan	Tricarbamidohlorat natriy	Cotton middle-fibre	31.12.2010
267	Samara 70%	OOO"Ecokimyobioservis", Uzbekistan	Dicarbomid chlorid chlorat natriy + diacetat etanolamin	Cotton middle-fibre	31.12.2010
268	Sardor 52%	IO-NH, Uzbekistan	Chlorat natrium + 2 chloretilphosphonat monoetanol ammoniy	Cotton middle-fibre	31.12.2009
269	Sahovat 45%	MP "Hosilot", Uzbekiston	Chloriat natrium + phosphat etanolamina	Cotton middle-fibre	31.12.2007
270	Sihat 70.5%	IO-NH, Uzbekistan	Tricarbamidohlorat natriy	Cotton middle- and fine- fibre	31.12.2010

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
271	Super HMD j	IO-NH, Uzbekistan	365 g/l chloriat magniy + 4.5 g/l phosphat etanoplamin	Cotton middle-fibre	31.12.2011
272	Finish 540 g/l	"Bayer KropScience", Germany	Etephon + ciclonilid	Cotton middle- and fine- fibre	31.12.2010
273	Chlorat Magniy 60%	"Azot", uzbekistan	Chlorat Magniy	Cotton middle- and fine- fibre, rice	31.12.2008
274	Chlorat Magniy 36%	"Azot", uzbekistan	Chlorat Magniy	Cotton	31.12.2009
275	Chlorat Magniy 43%	"Azot", uzbekistan	Chlorat Magniy	Cotton	31.12.2009
276	**Growth Regulators**				
277	Baraka 60%	Privately owned enterprise "Baraka", Uzbekistan	Natriy of cotton soapstok	Winter wheat	31.12.2009
278	Bahor 93%	OOO "Navkar servis", Uzbekistan	Ammonium of salicylic acid (ammonium salicylate)	Winter wheat, cotton	31.12.2010
279	Vitabax 200 FF 34%	(Uniroyal chemical) Registrations Ltd. UK	Carboxin + tiram	Winter wheat, cotton	31.12.2009
280	Vitaros 34%	Close joint-stock company "Avgust", Russia	Carboxin + tiram	Cotton	31.12.2009
281	Gumat Natriy 30%	Research-and-production association "Print - TM", Privately owned enterprisen "E/M/ Gutnikov", Uzbekistan	Natrium salt of guminium ocid	Cotton middle-fibre, cotton, wheat, tomato, cucomber, potatoes	31.12.2010
282	Dalpiksi 5%	"Dalston Associated SA", Panama	Mepicvat-chlorid	Cotton	31.12.2011
283	PIKS 5%	BASF, Germany	Mepicvat-chlorid	Cotton	31.12.2011
284	Uztikc 5%	Joint venture "Electrochimsavod" Uzbekistan	Mepicvat-chlorid	Cotton	31.12.2011
285	D-4-2 4%	"Protech" Uzbekistan	Natural protein and peptide	Cotton	31.12.2011
286	Moviy 50%	MP "Hosilot", Uzbekiston	Phosphat-etanol-amin	Winter wheat, cotton, tomato, patatoes, cabbage	31.12.2009
287	Nitrolin 10%	IHRV under AS, Uzbekistan	Polymer of saponificated nitron	Cotton, cucumber	31.12.2009
288	Ociguat 10%	"Grand Agro Plus" Uzbekistan	Salt of guminium ocid	Cotton, cucumber	31.12.2010

S/Nb	Name of the chemicals	Origin of the production	Type of chemicals	Names of the tested crops	Registration expiry date
289	P-4 65%	"Agrochim" Ltd., Uzbekistan	Dimetilol-carbamid	Cotton	31.12.2005
290	Roslin 10%	IHRV under AS, Uzbekistan	Copolymer fibers of nitron with nitrolignin	Cotton, winter wheat, tpmato, cucomber	31.12.2006
291	Rostbisol 60%	IGEBR under AS, Uzbekistan	Tetrametilendiamin of oxalic acid	Cotton	31.12.2010
292	Stimulator T 2.5 g/l	Biochemical Instutite under AS, Uzbekistan	Di-iodine-ociphen-oci di-phenilanin	Cotton	31.12.2011
293	TJ-85 p/	IONH, Uzbekistan	Ocietil urea zinchydrate	Cotton	31.12.2005
294	Uchkun 1%	IHRV under AS, Uzbekistan	Derivative of isoprene	Cotton	31.12.2009
295	Hocil 40%	IONH, Uzbekistan	Phosphat-etanol-amin	Cotton, tomato, potatoes, cabbage, wheat	31.12.2008

**Used only by special trained personnel with strict following the instructions with application of substance for individual protection of respiratory organs, that filitirates through masks and special dress coat.

Source: Handbook: List of pesticides and agrochemicals permitted for use in agriculture in Republic of Uzbekistan (Tashkent, 2007)

ANNEX 10

LIST OF CHEMICAL PROTECTANTS, INCLUDED INTO THE REGISTER OF FORBIDDEN AND LIMITED ON APPLICATION THE ACTIVE AND NON-ACTIVE INGREDIENTS.

#	Name of preparation or reactant	CAS No.	Registration date	Registration period validity	Reason of forbidden or limitation
1.	DDT and metabolites. 1.1-di-(4-chlorophenol) 2.2.2 trichloroethane (pesticide)	50-29-3	28.02.2001	Permanently	High-persistent pesticide, with full-blown cumulative behavior
2.	Hexachloran (sum of isomers GCCH) 1.2.3.4.5.6.-Hexachloro-cyclohexane(pesticide)	608-73-1	28.02.2001	Permanently	Stable in external environment, with carcinogenic, embryotoxic action, cumulative behavior. High level of products pollution
3.	2.4.5-T (dynoxol TCF)* (pesticide)	93-76-5	28.03.2002	Permanently	Teratogen, carcinogen, mutagen. Stable in external environment
4.	Aldrin ** (pesticide)	309-00-2	28.03.2002	Permanently	Highly toxic, Stable in external environment
5.	Captaphol * (pesticide)	2425-06-1	28.03.2002	Permanently	Carcinogenic, Stable in external environment
6.	Chlordan ** (pesticide)	57-74-9	28.03.2002	Permanently	Stable in external environment
7.	Chlordimeform * (pesticide)	6164-98-3	28.03.2002	Permanently	Mutagen, Carcinogenic, Stable in external environment
8.	Chlorbenzilat * (pesticide)	510-15-6	28.03.2002	Permanently	Oncogenic, Stable in external environment
9.	Heptachlor ** (pesticide)	76-44-8	28.03.2002	Permanently	Highly toxic, Carcinogenic, Stable in external environment
10.	Deldrin ** (pesticide)	60-57-1	28.03.2002	Permanently	Virulent toxic agent, Stable in external environment
11.	Dinoseb and it's salts * (pesticide)	88-85-7	28.03.2002	Permanently	Highly toxic, Teratogen, Stable in external environment
12.	1.2 – Dibromethane * (pesticide)	106-93-4	28.03.2002	Permanently	Oncogenic, Stable in external environment
13.	Fluoroacetamide * (pesticide)	640-19-7	28.03.2002	Permanently	Highly toxic, Stable in external environment
14.	Hexachlorobenzene ** (pesticide)	118-74-1	28.03.2002	Permanently	Highly cumulative, Stable in external environment
15.	Lindan * compound	58-89-9	28.03.2002	Permanently	Highly cumulative, Oncogenic, Stable in external environment
16.	Mercury compounds * phenol		28.03.2002	Permanently	Highly toxic, Stable in external environment
17.	Pentachloro-phenol * phenol	87-86-5	28.03.2002	Permanently	Full-blown skin-resorptive action, Stable in external environment
18.	Monocortophos * (dangerous formulation)	6923-22-4	28.03.2002	Permanently	Highly toxic, Stable in external environment
19.	Metamydophos * (dangerous formulation)	10265-92-6	28.03.2002	Permanently	Stable in external environment
20.	Phosphamydon * (dangerous formulation)	13171-21-6	28.03.2002	Permanently	Stable in external environment
21.	Methyl-parathyon * (dangerous formulation)	298-00-0	28.03.2002	Permanently	Highly toxic, Teratogen, embryotoxic, Stable in external environment
22.	Parathyon * (dangerous formulation)	56-38-2	28.03.2002	Permanently	Highly toxic, Stable in external environment
23.	Endrin ** (pesticide)	77-20-8	21.10.2005	Permanently	Highly toxic, Stable in external environment
24.	Mirex ** (pesticide)	2385-85-5	21.10.2005	Permanently	Carcinogenic, Stable in external environment

25.	Toxaphen ** (pesticide)	8001-35-2	21.10.2005	Permanently	Highly toxic, Carcinogenic

* the most dangerous chemical compounds, forbidden and limitation of which is approved by the Rotterdam convention.
** the most dangerous chemical compounds, forbidden and limitation of which is approved by the Stockholm convention.
Decision to include these preparations to the given "Register" was accepted on the sittings of State Chemical Commission (Goshimkimissiya) on 28 March 2001, 28 March 2002, 21 October 2005.

Source: List of chemical protectants, included into the register of forbidden and limited on application the active and non-active ingredients (Tashkent, 2007)

SUMMARY OF PROJECT OUTCOMES OF RESP-I

ANNEX 11

UZ-RESP-I. Outputs of the I&D Component: and Environmental impacts

A	B	C	D	E	F	G
	UNIT	**TOTAL**	**Positive Env Impacts**	**Negatiove Env. Impacts**	**Mitigation Measures**	**Responsibility**
a) Inter-farm systems						
Inter-Farm canals rehabilitation	km	138.8	Increase canal efficiency, increased water supply, decrease on water loss, decrease on groundwater level	wastes from cleaning, left over materials from construction, oil & fuel spils, dust, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
inter-farm draining Collectors	km	58.5	improved drain, decrease on ground water level, decrease of salinity, decrease in minirelized ground water	wastes from cleaning, oil & fuel spils, dust, noise	watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season	Contractor/ Project Manager
Inter-Farm Canal Structures (gates, etc)	#	207	reduction of water loss, improve on water control,	disposal of old structures, dust, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season	Contractor/ Project Manager
Verical Drainages	#	71	improved drain, decrease on ground water level, decrease of salinity, decrease in minirelized ground water	disposal of old materials, left over materials from construction, oil & fuel spils, dust, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
Pumping stations	#	3	Increase pump efficiency, increased water supply	left over materials from construction, oil & fuel spils, dust, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
Levee (coastal protection)	km	0.6	increased safety from washing away, decrease erosion	left over materials from construction, oil & fuel spils, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager

Siphon (pipeline) under river	#	1	maintain piped water access	construction waste	Uilization of the wastes to the designated waste disposal places	Contractor/ Project Manager
Total Cost for inter-farm ('000)	US$	7,703.7				
b) On-farm systems						
On farm canals	km	61.8	Increase canal efficiency, increased water supply, decrease on water loss, decrease on groundwater level	wastes from cleaning, left over materials from construction, oil & fuel spils, noise	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
On-Farm draining collectors	km	553.6	improved drain, decrease on ground water level, decrease of salinity, decrease in minirelized ground water	wastes from cleaning, oil & fuel spils, noise	watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season	Contractor/ Project Manager
On-farm canal structures (gates, etc)	#	1,227	reduction of water loss, improve on water control,	disposal of old structures	Utilization of wastes, demolished concretes and canalets and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
On-Farm Small Pumps	#	74	Increase pump efficiency, increased water supply	left over materials from construction, oil & fuel spils, noise	Utilization of wastes and metal scraps, watering the soil for reducing the dust, working during the day for avoding the noise, for avoiding the stoppage in water supply works should be conducted during off-vegetation season, filling the tanker of the vehical should be done in special seperated place.	Contractor/ Project Manager
Total Cost for on-farm ('000)	US$	4,908.3				
TOTAL COST	US$	12,612.0				

Source: M&N unit of RRA

UZ-RESP. Outputs of the Credit Component: and Environmental impacts

A	B	C	D	E	F	G
	UNIT	**TOTAL**	**Positive Env Impacts**	**Negatiove Env. Impacts**	**Mitigation Measures**	**Responsibility**

Tractors& combines	units	568	reducing pollution by increasing fuel and lubrican efficiency; incease of soil fertility (organic structure, capillaries, drainability) by replacing the top soil layer through more timely cultivation & ploughing	compacting the earth from over use of the machine on the field (esp. wheeled tractors, not the track tractors)	supply and use of appropriate type and size equipemnt	farmers
Livestock (cattle)	heads	1,354	Increase in organic fertilizer (manure), increase of crop rotation and diversification of plants, (e.g. alfa-alfa increases nitrogen level of the soil)	Overgrazing; contamination of surface & ground waters from concentration of uncleaned wastes	(i) regulations on animal pressures on pastures (e.g. 1 cattle/1 ha irrigated land and 1,5 ha pasture; (ii) use of manure as fertilizer	(i) local authorities; (ii) farmers
Livestock (sheeps)	heads	1,794	Increase in organic fertilizer (manure), increase of crop rotation and diversification of plants, (e.g. alfa-alfa increases nitrogen level of the soil)	Overgrazing; contamination of surface & ground waters from concentration of uncleaned wastes	(i) regulations on animal pressures on pastures (e.g. 10 sheeps/1 ha irrigated land and 1,5 ha pasture; (ii) use of manure as fertilizer	(i) local authorities; (ii) farmers
Poultry (chickens)	heads	19,000	Increase in organic fertilizer (manure)	Contamination of surface & ground waters from concentration of uncleaned wastes	use of manure as fertilizer	poltry farmers
Bee-keeping (credits)	unit	4	Increase of yields through pollination of flowers	none	none	none
Vegetable growing (seeds)	ton	49	Use of intensive technology increases yeilds per hectar, which reduces cropping area.	water pollution, soil scontents in using pesticides	training in safe pesticide use and handling; introduction of IPM	Rural advisory services for training; farmers for adoption of appropriate methods
Green-house (construction materials)	set	8	Use of intensive technology increases yeilds per hectar, which reduces cropping area.	Use of negative pesticieds, wastes from cleaning, wastes from cleaning, left over materials from construction, oil & fuel spils, dust, noise	Introduce IPM, biological treatments; disposal of old metals and structures to screap heaps, watering the surface to reduce dust, working during daytime to avoid noise	contrctors/project manager
Agro-processing (oil refinery, milk processing, wool treetment, etc)	#	10	Use of modern technology and processing the farm outputs	Water pollution .safety and health .biophysical and cultural losses through location	wastewater treatment, proper siting, proper control of construction wastes and impact (noise, dust)	credit recipient
Rural business (service)	#	1.0	advice and training on good environmental practices	none	none	advisory services providers
TOTAL COST	USD	8,266,675				

Source: M&N unit of RRA