

**INTEGRATED SAFEGUARDS DATA SHEET  
APPRAISAL STAGE**

**Report No.: ISDSA7789**

**Date ISDS Prepared/Updated:** 09-Jun-2014

**Date ISDS Approved/Disclosed:** 12-Sep-2014

**I. BASIC INFORMATION**

**1. Basic Project Data**

<b>Country:</b>	Pakistan	<b>Project ID:</b>	P145813
<b>Project Name:</b>	PK Sindh Irrigated Agriculture Productivity Enhancement Project (P145813)		
<b>Task Team Leader:</b>	Mahwash Wasiq		
<b>Estimated Appraisal Date:</b>	11-Aug-2014	<b>Estimated Board Date:</b>	13-Jan-2015
<b>Managing Unit:</b>	GWADR	<b>Lending Instrument:</b>	Investment Project Financing
<b>Sector(s):</b>	Irrigation and drainage (60%), Crops (25%), General water, sanitation and flood protection sector (15%)		
<b>Theme(s):</b>	Rural services and infrastructure (50%), Water resource management (30%), Analysis of economic growth (20%)		
<b>Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?</b>			No
<b>Financing (In USD Million)</b>			
Total Project Cost:	257.71	Total Bank Financing:	199.31
Financing Gap:	0.00		
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			58.40
International Development Association (IDA)			199.31
Total			257.71
<b>Environmental Category:</b>	B - Partial Assessment		
<b>Is this a Repeater project?</b>	No		

**2. Project Development Objective(s)**

The project development objective is to improve agriculture productivity for small and medium size farmers in Sindh.

**3. Project Description**

The project will be implemented in 6 years and have the following components:

Component A: Community Water Infrastructure Improvement (Total: US\$127.8 million, IDA US\$ 100.4 million)

1. Sub-Component A1: Community Water Course Improvement (Total US\$114.2 million, IDA US\$86.8 million). The component will assist Government of Sindh efforts to improve the tertiary level water distribution systems (watercourses) where water losses are highest. In Sindh, there are 46,699 water courses out of which 28,856 have been improved. Of the remaining 17,843, about 5,500 will be improved through the provision of lining (corresponding to 30 percent of watercourse length). Lining of water courses in general and in Sindh in particular has three advantages: (1) it decreases conveyance losses and prevents seepage to groundwater aquifers which is mostly saline; (2) it helps to deliver water faster to the farmers' fields, so they can take advantage of the full duration of an irrigation cycle under the wara-bundi system; and (3) it ensures equity in water distribution between head and tail users of watercourses.
2. Activities under this sub-component will include development of selection criteria for watercourse selection, farmer mobilization, and establishment of Water Course Associations (WCAs) and their registration, survey and design, and construction. Generally two types of lining will be available for the farmers to choose from: precast concrete parabolic lining (PCPL) segments or traditional rectangular brick masonry lining. The lining will be provided after the earthen section has been improved and realigned. In addition to lining, concrete water outlet structures will be installed for water diversion to the field over the entire length of watercourses.
3. The farmers will co-finance 24 percent of the costs through provision of skilled and unskilled labor. An estimated 137,000 farm families will benefit during the first phase of the project, which covers 5,500 watercourses in 24 districts.
4. Farmer mobilization, survey and design will be carried out by 100 Field Teams based in all 24 districts. Training in farmer mobilization and other aspects will be provided to the field teams by Technical Assistance & Training (TAT) consultants. Design verification and construction supervision and quality control will be performed by Project Implementation Supervision (PIS) Consultants. Monitoring and Evaluation (M&E) consultants will carry out the third party monitoring of physical progress, impact assessment, and implementation of environmental and social management plans.
5. Sub-Component A2: Mitigating Flood Risk for the Poor (Total US\$13.6 million, IDA US \$13.6 million). To extend the benefits of the project to rural poor, this subcomponent will finance the provision of 432 flood shelters of three types in the most vulnerable seven districts of Sindh. These flood shelters are especially important for the landless and the very poor, particularly women, children, and elderly and disabled people along with their belongings. Their life savings and belongings include the animals they own and food stock they consume. Current design provides shelter for 121,000 people and about 129,000 cattle in the most affected districts. Some of the shelters are designed to be used for community activities during non-flood seasons. There, local populations can exchange ideas on farming, animal husbandry, health, nutrition, and education - and women can share their many talents in crafts for which Sindh is famous. Strong community participation and willingness to contribute in kind with strict norms will be used for wider community participation. As such, it is envisaged that these centers will change the current social dynamics in the rural areas and improve social cohesion, which is urgently needed.

6. The land for construction will be largely public or community owned land located in non-cultivable areas preferably on higher ground. An agreement has been reached with the Provincial Disaster Management Authority (PDMA) that once constructed, these shelters will be transferred officially to them for operations and maintenance with additional agreement for some that will be used for community activities. The PDMA will be invited to engage closely during implementation. Component B: Promotion and Installation of High Efficiency Irrigation Systems (Total US\$66.6 million, IDA US\$40.6 million)

7. This component will support (a) the introduction and installation of high efficiency irrigation systems (HEISs) such as drippers and bubblers for horticulture, floriculture, vegetables, and other high value crops grown on small commercial farms as well as (b) the introduction and distribution of kitchen garden drip irrigation kits for female headed households and landless farmers.

8. The system will be provided to the farmers on a 40 percent cost sharing basis and will be installed by service providers who will also provide a technical assistance package for the farmers in operations and maintenance of the system. Additional training and assistance will be provided by the HEIS specialist in the field teams assisted by the TAT consultants.

9. Sub-component B1: Small and medium-sized HEISs for 2 ha (5 acres), 4 ha (10 acres), and 10 ha (25 acres) farms (Total US\$64.6 m, IDA US\$40.5 m). This sub-component will assist small and medium sized farmers to install and operate HEIS drippers and bubblers for growing high value crops. Under the project 2,600 HEISs will be installed on 14,300 ha (35,000 acres) of irrigated and irrigable land. Criteria for site selection and service providers are provided in Annex 2. Preference will be assigned to 4 to 10 ha farms because of their increased profitability, ranging from an EIRR of 15 to 43 percent.

10. Given the novelty of this technology in Sindh, a social awareness and farmer mobilization campaign will be initiated and carried out by the field team with assistance from TAT consultants. Training will include HEIS design, installation, operation and maintenance, irrigation scheduling, crop technologies, irrigation agronomy, and crop diversification.

11. Sub-component B2: HEIS Demonstration Sites and Kitchen Garden HEIS kits (Total US\$2.1 million, IDA US\$1.8 million). This sub-component will include 48 demonstration sites of 2 ha (5 acres), two in each district; and finance the associated training of department staff, SSCs and farmers including women in the installation, operation, and maintenance of the HEISs.

12. A kitchen garden HEIS kit consists of drip irrigation equipment for a plot of 10m x 10m = 0.01 ha (0.025 acre) including a small water storage of 160 liter (40 gallon) with a conveyance pipe for the daily provision of water. Whereas the 100 kitchen garden HEIS kits for demonstration purposes will be provided free of charge, individual households requesting a HEIS kit will need to contribute 10 percent of the investment cost of US\$50. It will address the poorest elements of rural Sindh: 10,000 female headed households and 10,000 landless farmers, altogether 20,000 households.

Component C: Improved Agriculture Practices (Total US\$24.0 million, IDA US\$19.0 million)

13. To increase the benefits of enhanced water availability from watercourse lining and high efficiency irrigation systems, and to improve the application use of appropriate crop inputs, this component will support provision of precision land leveling and deep ripping; improvement in irrigation agronomy; demonstration of and training and assistance in improved and modern technologies and methods to increase irrigation efficiency and agriculture productivity. In particular, the component will provide assistance in crop protection, input application, crop diversification, field irrigation techniques, and training, covering training of service providers and farmers, training of

trainers, and establishment of farmers' information kiosks. This component will include the following sub-components:

Sub-Component C1: Laser Land Leveling and Deep Ripping (Total US\$9.4 million, IDA US\$4.4 million). Under this sub-component, the project will provide laser guided precision land leveling and associated deep ripping equipment and training in its use to help farmers save irrigation water, curtail irrigation time, improve efficiency of agriculture inputs such as fertilizers, and achieve uniform seed germination, resulting in increased crop yields.

Sub-Component C2: Improved Agriculture Production Technology (Total US\$12.2 million, IDA US\$12.2 million). Under this sub-component the project will support training of farmers to improve their crop and irrigation agronomy practices. Interventions will include: (a) establishing Farmer Field Schools with a focus on IPM (b) training of FFS facilitators (c) in-country exposure visits for farmers (d) demonstration of rearing beneficial insects on the farm and (e) training in crop production under High Efficiency Irrigation System (the drip system).

Sub-Component C3: Technical Assistance and Training (TAT) Consultants (Total US\$2.4 million, IDA US\$2.4 million).

To implement the above activities, including the necessary training under HEIS, an experienced consultant firm will be employed with expertise in community mobilization, field irrigation techniques, salinity management, irrigation scheduling, crop production technologies, irrigation agronomy, integrated pest management under the FFS methodology, and post-harvest management technologies. Areas of training for HEIS will include HEIS installation, operation and repair, crop diversification, crop production under HEIS, soil moisture measurement, and fertilizer application. For HEIS they will train the concerned staff of the field teams and other public sector staff as trainers. In addition, the consultancy will support management of the various piloting activities such as HEIS, and training of trainers for operators in laser land leveling and deep ripping.

**COMPONENT D: PAROJEDT MANAGEMENT AND MONITORING AND EVALUATION (US \$39.3 million, IDA US\$39.3 million)**

This component will support the cost of project implementation and management, technical assistance for design and construction supervision, M&E consultants, studies, audits and staff training.

Sub-Component D1: Supervision and Implementation Assistant Consultants (PSIAC) (US\$8.3 million, IDA US\$8.3 million). Under this sub-component, a consulting firm will be recruited to (i) assist the PIU in overall project implementation and management including technical, procurement, financial management, (ii) engineering and designs, construction supervision; ensuring quality and timely completion of works under all project components and activities; and (iii) timely completion of strategic studies and pilot projects that will be identified during project implementation. They will work closely with the PIU, TAT and M&E consultants, suppliers, contractors, and farmers.

Sub-Component D2: Monitoring and Evaluation (M&E) Consultants (US\$2.7 million, IDA US\$2.7 million). This sub-component will cover M&E of the project and impact assessment by third party independent consultants, who will report directly to the Project Steering Committee. The M&E activities will provide continuous feedback to the Government of Sindh on the project's performance and impact of its various components. To implement this sub-component, independent consultants will be recruited to monitor and evaluate before and after each construction season to review: (a) implementation progress, including spot checking of works and quality of construction, and targeting of works as compared to agreed criteria; (b) project intermediate impacts; and (c) environmental and

social impacts particularly on small and marginalized farmers and female farmers. The DGAEWM will also have dedicated staff working in M&E activities and act as counterparts for these consultants. The consultants will also be responsible for establishing a Management Information System (MIS) and ICT based monitoring program for all project components and activities.

Sub-Component D3: Project Management Costs Consultants (US\$28.4 million, IDA US\$28.4 million).

This sub-component will finance incremental staffs which are to be recruited to enhance the implementing capacity of the project implementation unit, and incremental operation costs for running project district offices and field offices to supplement their office and other logistic supports, strategic studies and feasibility for pilot projects that will be identified during project implementation. It will also support implementation of various plans such as Environmental Management Plan, Social Management Plan, Resettlement Policy Framework, Grievance Redress Mechanism, and Gender Action Plan.

#### **4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

The project is located in the irrigated areas of Sindh province. The area is characterized by flat lands with inadequate land drainage features. Irrigation returns and drainage effluent are drained either through man-made surface drains or collected in naturally occurring depressions, which are also used as fish ponds. Due to limited drainage, secondary salinization is one of the reasons for land degradation in the province. Extensive irrigation network with inadequate drainage also creates localized waterlogging, another important reason for land degradation. Soils in the province, otherwise, are fertile and very productive. Right bank of the Indus river is generally cultivated with wheat-rice and the left bank is known for wheat-cotton and wheat-sugarcane cropping pattern.

#### **5. Environmental and Social Safeguards Specialists**

Chaohua Zhang (GURDR)

Javaid Afzal (GENDR)

Samina Mussarat Islam (GURDR)

Fouad Muhammad Khan (GENDR)

<b>6. Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/ BP 4.01	Yes	The proposed project interventions are limited to an existing gravity-fed irrigation command area where agricultural practices are centuries old. Environmental impacts of the proposed project interventions are generally positive, including increased efficiency in the irrigation water use, conservation of scarce water resources and improved groundwater and soil salinity throughout the project area. However, during the project implementation there is a possibility of some low to moderate, short-duration impacts such as damage to assets, loss of land and trees, soil erosion etc, therefore the project has been categorized as 'B'. The project is undertaking a comprehensive environmental assessment, which

		includes preparation of an environmental management framework/plan to mitigate the potential negative environmental impacts likely to occur due to the project.
Natural Habitats OP/BP 4.04	No	As the project interventions are limited to an existing irrigation system with most of the activities happening at the farm level, the project will not have any negative impact on any of the natural habitats present in the province including national parks, wetlands and/or any other environmentally sensitive areas.
Forests OP/BP 4.36	No	The project is limited to an existing irrigation command with no effect on any natural or planted forests. The project will also not cause any changes in the established water rights in the area.
Pest Management OP 4.09	Yes	There is a potential for the increased pesticide use resulting due mainly to increased water supplies at the tail of the irrigation system. The borrower has prepared a pest management plan to advise, guide the farmers on mitigation of some of the adverse impacts likely to happen due to the increased pesticide use.
Physical Cultural Resources OP/ BP 4.11	No	As no new irrigation system and/or agricultural area is to be developed, there are no chances of adverse impacts on any of the physical or cultural resources within the province. Even the rehabilitation activities under the project will not have any negative impact on any of such resources present in Sindh province.
Indigenous Peoples OP/BP 4.10	No	There are no indigenous groups of people present in Sindh province that fall under the World Bank's definition of indigenous people.
Involuntary Resettlement OP/BP 4.12	Yes	This policy is triggered given the possible land needs for the construction of 70 new flood shelters. IA agreed to make all possible efforts to use the free of cost lands through voluntary donations of communities' common lands, lands donations by local or district governments or other government line agencies. But in case of non-availability, there is a remote possibility of acquiring private lands through Land Acquisition Act of Pakistan at current market rates/ replacement costs.. The borrower has developed a Land Acquisition and Resettlement Planning Framework to fully and sufficiently mitigate any possible adverse impacts associated with lands

		need.
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	Yes	The project area is located in the Indus River Basin which is an international waterway thus the international waterways safeguard under OP 7.50 is triggered. The project interventions essentially improve water use and delivery efficiency and improve drainage by improvement of watercourses and better field water application practices, land leveling, and high efficiency irrigation system.
Projects in Disputed Areas OP/BP 7.60	No	Sindh province is part of Pakistan and is not part of any disputed territory with the neighboring countries.

## II. Key Safeguard Policy Issues and Their Management

### A. Summary of Key Safeguard Issues

#### 1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project is not expected to have any large scale, significant and/or irreversible negative environmental impacts or safeguards issues. Following are some of the potential impacts of the project;

**Watercourse improvement.** The potentially negative impacts of watercourse improvement could include; loss of flora, pollution of irrigation water by detergents and soaps due to increased sanitary and washing use, increased use of pesticides due to availability of additional water and crop cultivation, un-attended excavated earth/silt due to rehabilitation, temporary diversion channels left un-attended, cutting of trees, shrubs and disturbance to ground vegetation. Improper maintenance of water courses can potentially cause silting and clogging of these channels, thus reducing the irrigation efficiency and water availability. The water course lining while conserving water by reducing the water seepage from the water courses can also potentially reduce the groundwater recharge thus affecting among others the drinking water source for the local population.

**High Efficiency Irrigation Systems.** Impacts could include use of water stored in small water tanks for drinking purposes (when potable water is not available) as well as safety concerns for animals and small children. Salt buildup can also be a potential impact. The flood irrigation helps in leaching of salts present in the irrigation water (particularly when groundwater is used) from the soil thus avoiding salt build up in the crop root zone. However, the proposed high efficiency irrigation system may potentially lead to salt build up in the crop root zone since the leaching is unlikely to take place with the controlled irrigation. To mitigate this drip irrigation system should be preferred for row crops and for areas having loamy soils.

**Flood Shelters.** Potential environmental impacts could include cutting of trees for construction of the shelters. In case of private land acquisition, the project will cause involuntary resettlement impacts.

**Conflicts in Water Supply Rights.** Increased irrigation water availability as a result of water course improvement and/or adopting high efficiency irrigation techniques can potentially cause local

conflicts among the communities.

**Disruption of Local Routes.** During the construction activities especially the lining of water courses of the project, local routes can potentially be blocked adversely affecting the local communities and their livestock.

**Impacts on Women, Children, Vulnerable Groups, and Indigenous People.** The project interventions will generally benefit the land owners and growers, however, these interventions are unlikely to negatively affect vulnerable groups such as poor, women and children.

**Water Borne and Water-related Diseases.** Construction and operation of irrigation schemes can potentially cause water borne and water-related diseases. In particular, the ponds constructed to store water can provide breeding areas for mosquitoes, potentially causing malaria and dengue.

**2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:**

Water resources development may potentially cause intensification and expansion of cultivation, thus increasing the usage of pesticides and herbicides. A comprehensive Integrated Pest Management Plan has been prepared that includes biological, cultural and environmental means propagation to minimize pest usage.

One of the primary long term climate change related impacts in South Asia, especially in canal irrigated area would be the stress on water resources and intermittent flooding due to increased frequency of higher intensity extreme weather events. The project addresses these concerns from multiple dimensions. On the one hand, by improving irrigation efficiency the project aims to conserve an important and potential scarce resource (going forward) in Sindh i.e. water. Better prepared water courses help improve the reliability of farming practice as a source of income at the tail ends of the watercourses and thus also contribute towards food security. Flood shelters serve as an important disaster preparedness measure in an area where extreme weather activity has caused significant loss of lives and livelihood especially in recent years. In case of private land acquisition for flood shelters, involuntary resettlement impacts will occur on affected persons and their socio-economic conditions.

**3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.**

Following alternatives were considered during project design and environmental impacts mitigation analysis;

**No-project Alternative.** The ‘no-project’ alternative is not acceptable since in that scenario, a considerable amount of irrigation water will continue to be wasted. As described earlier, the irrigation sector suffers from among other factors low surface water delivery efficiency as well as wasteful on-farm water use, and only 35-40 percent of the irrigation water reaches from the canal head to the crop root zone. No project alternative has greater environmentally negative impacts.

**Alternative Irrigation Methods.** Flood irrigation has been the traditional method in the country for ages. In this method, the entire cultivation field is flooded with the irrigation water. This method is time consuming and hence labor intensive, highly inefficient in terms of water usage, and also results in other problems such as increased vulnerability to pest attacks and proliferation of weeds, in turn resulting in the increased need of pesticides and weedicides. The high efficiency irrigation methods proposed under the Project address all of these problems, in addition to achieving enhanced yields and productivity of the farms. The high efficiency irrigation methods generally result in the reduced need of farm inputs such as fertilizers, pesticides, fungicides, and herbicides, as mentioned above. The overall result of the high efficiency irrigation system is therefore a much reduced usage of chemical inputs. High efficiency irrigation methods are the preferred option for irrigating the cultivation fields in the country.



Alternative Land Leveling Methods. The conventional leveling with the help of tractors or graders is the major alternate to the laser land leveling, which is included in the proposed project. Through the conventional methods, land cannot be leveled with precision; hence the advantages of leveling cannot be fully achieved. Unleveled fields result in improper irrigation, wastage of irrigation water and also require additional farm labor. On the basis of the above, it is evident that the precision land leveling through laser leveling is a preferred mode of farm leveling.

Alternative Methods of On-farm Water Conservation. The alternatives available for the on-farm water conservation include i) piped conveyance system; re-alignment and brick-lining the entire length of the water course; and re-aligning and improving the water course, but keeping it earthen (ie, without brick-lining). No major difference exists among the above options in terms of the environmental and social consequences, except that the third option would not fully achieve the objective of water conservation and associated benefits. The cost of the first alternative would be prohibitive with marginal benefits compared to the second alternative, and the reduction of water losses will not be substantial in case of the third option. Therefore, the benefit-cost ratio is best for the second alternative, which has been selected for the proposed project.

Alternative Methods of Implementing the Proposed Initiatives. The beneficiaries of the high efficiency irrigation/laser land leveling/water course improvement schemes under the proposed project would be required to share the cost of establishing the schemes. Once established, these schemes will be operated and maintained by the beneficiaries themselves. This arrangement will ensure 'ownership' of these schemes by the beneficiaries, and thus the sustainability of the initiative. Other options include i) full cost of the scheme to be covered by the Project; ii) full cost of the scheme to be covered by the beneficiary. No major difference exists among the above options in terms of the environmental and social consequences, except that the selected option will ensure beneficiary and community participation. The first option would result in lack of ownership of the schemes by the beneficiaries, while the second option may fail to attract the farmers to adopt the new initiatives included under the proposed project.

Alternative Methods for Acquisition of Lands for Flood Shelters: Implementing Agency will make all possible efforts not to acquire private lands, to avoid involuntary resettlement impacts. The lands are expected to be taken through donations by communities, local/district governments or other government line agencies. A due diligence will be conducted for each sub-project to ensure that provision of lands through donations would not cause any adverse impacts on any private or public assets or income.

**4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.**

A detailed Environmental Impact Assessment (EIA) has been conducted that assesses the project interventions for their potential impacts, identifies negative impacts, proposes mitigation measures, presents institutional arrangements and an Environmental Management Plan (EMP) for ensuring implementation of mitigation measures and prescribes a monitoring and reporting regime. Further the EIA provides environmental checklists and guidelines for all interventions that involve physical works of any nature.

Though the project does not involve distribution of or use of any pesticides however the change in water usage may affect the pesticide usage regime in the project area. The Integrated Pest Management policy is thus triggered and an Integrated Pest Management Plan (IPMP) has been prepared. Activities to be undertaken as part of the IPMP for SIAPEP include biological and social control methods (capacity building) highlighted under Component C of the project as well as monitoring and testing to be carried out under the IPM for this project as well as the IPMP for SAGP.

Environmental impacts for all project interventions are identified. Potential impacts include

decrease in groundwater recharge, loss or flora or cutting of trees, increase in siltation due to improper disposal of excavated material or inadequate design or construction of watercourses and impact on inclusive access to resources for all genders. Mitigation measures have been proposed for all the potential impacts, none of which are expected to be intense, expansive or irreversible. Mitigation measures include compensatory tree plantation by the ratio of 1 to 4 trees for each tree felled, construction of washing bays to continue ensured access to resources for women and measures for adequate disposal of excavated material. An IPMP that includes capacity building, biological control and monitoring measures has been prepared to address pesticide usage concerns. A comprehensive institutional strengthening mechanism has been developed to address environmental and other safeguards concerns. The overall responsibility for implementation of EIA and EMP lies with DGAEWM. In addition he will be assisted by a senior environmental and social specialist and an environmental focal person in the PIC. The environmental and social specialist will be responsible for collection of completed checklists and other documentation from regional offices and compiling quarterly environmental progress reports. The environmental and social specialist will also design and implement a capacity building program to ensure compliance with the EIA and EMP. Implementation of EIA and EMP shall be carried out through the regional offices of the Agriculture extension. A biennial Third Party Validation of EMP implementation shall be conducted by the monitoring and evaluation consultant.

The EIA and EMP for the project build upon significant lessons learned during the implementation of Sindh On-Farm Water Management Project. To ensure that compliance with environmental safeguards policies is improved, institutional arrangements and monitoring parameters have been designed in the current EIA and EMP to make environmental compliance a key feature of project implementation from day one.

The borrower has developed a Land Acquisition and Resettlement Planning Framework (LARF) to avoid or minimize adverse impacts, which may cause due to acquisition of private land or donated lands under people use. The procedures laid down in LARF are in conformity with the World Bank Resettlement Policy 4.12 on Involuntary Resettlement, as well as the applicable laws and regulations of Government of Pakistan and Sindh. It has also procedures for due diligence to ensure that donated lands would not cause any adverse impacts. The purpose of this LARF is to provide policy and legal framework and procedures to manage Land Acquisition and Resettlement (LAR). And in case of acquisition of private land, Resettlement Plans will be prepared by IA, which will be reviewed and cleared by the World Bank. Resettlement Plans will be fully implemented before start of civil works at the respective sub-projects.

**5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.**

A stakeholder analysis was conducted under the Social Assessment of the project to identify project stakeholder and their stakes. The key stakeholder include Agriculture Department, Government of Sindh; administrative, management and executing field staff of Agriculture Engineering & Water Management Wing; Sister Wings of Agriculture Department and Water Management, Water Course Associations; Civil Society Organizations; supplies and service providers, Project Supervision and Implementation Consultants, Monitoring and Evaluation Consultants and contractors, and more importantly direct beneficiaries who are the small and medium size male and female land owners, and local communities in the project area. The secondary stakeholders/indirect beneficiaries include marginal owners-cum-tenants, tenants and agricultural laborers, and small village-based artisans. The project focused is needed particular on women as the most disadvantaged among the target groups. Consultations with intended beneficiaries, landless and female farmers were conducted on project interventions through meetings Focus Group Discussions in different parts of Sindh, whereas discussions with the

institutional stakeholders were arranged in consultation workshops. Consultative workshops were held with project beneficiaries and other local communities at Hyderabad, T. M. Khan, Mirpurkhas, Nawabshah, Sukkur, Shikarpur, Larkana and Thatta. The process of stakeholder consultation was conceived to integrate stakeholder concerns in project design. The consultations also helped document local knowledge with respect to the various sets of issues and concerns. In general, both the institutional stakeholders and beneficiaries appreciated the project objectives and expressed a desire to participate in the implementation. Key concerns included equitable distribution of benefits and attention to environmentally and socially negative aspects of project implementation.

The LARF, EIA and EMP will be disclosed on the DAE&WM (IA) website and the World Bank InfoShop. And in case of acquisition of private land, the World Bank approved Resettlement Plans will be disclosed in the same manner and will also be translated into local language(s), and will be disseminated among affected persons through localized means of communication.

### ***B. Disclosure Requirements***

<b>Environmental Assessment/Audit/Management Plan/Other</b>	
Date of receipt by the Bank	07-Feb-2014
Date of submission to InfoShop	07-Mar-2014
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
Pakistan	04-Mar-2014
<i>Comments:</i>	
<b>Resettlement Action Plan/Framework/Policy Process</b>	
Date of receipt by the Bank	07-Feb-2014
Date of submission to InfoShop	07-Mar-2014
"In country" Disclosure	
Pakistan	04-Mar-2014
<i>Comments:</i> Resettlement Action Plan/Framework/Policy Process: Disclosure of LARF	
<b>Pest Management Plan</b>	
Was the document disclosed prior to appraisal?	Yes
Date of receipt by the Bank	21-Feb-2014
Date of submission to InfoShop	07-Mar-2014
"In country" Disclosure	
Pakistan	04-Mar-2014
<i>Comments:</i>	
<b>If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.</b>	
<b>If in-country disclosure of any of the above documents is not expected, please explain why:</b>	

### ***C. Compliance Monitoring Indicators at the Corporate Level***

<b>OP/BP/GP 4.01 - Environment Assessment</b>			
Does the project require a stand-alone EA (including EMP) report?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
<b>OP 4.09 - Pest Management</b>			
Does the EA adequately address the pest management issues?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Is a separate PMP required?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
<b>OP/BP 4.12 - Involuntary Resettlement</b>			
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
<b>OP 7.50 - Projects on International Waterways</b>			
Have the other riparians been notified of the project?	Yes [ <input type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input checked="" type="checkbox"/> ]
If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Has the RVP approved such an exception?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
<b>The World Bank Policy on Disclosure of Information</b>			
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
<b>All Safeguard Policies</b>			
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Have costs related to safeguard policy measures been included in the project cost?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ]	NA [ <input type="checkbox"/> ]

### III. APPROVALS

Task Team Leader:	Name: Mahwash Wasiq	
<i>Approved By</i>		
Sector Manager:	Name: Simeon Kacou Ehui (SM)	Date: 12-Sep-2014