INTEGRATED SAFEGUARDS DATA SHEET
CONCEPT STAGE

Report No.: ISDSC5249

Date ISDS Prepared/Updated: 08-Nov-2013

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I. BASIC INFORMATION

A. Basic Project Data

Country:	Pakistan	**Project ID:**	P145813
Project Name:	Sindh Irrigated Agriculture Productivity Enhancement Phase-I Project (P145813)		
Task Team Leader:	Mahwash Wasiq		
Estimated Appraisal Date:	02-Dec-2013	**Estimated Board Date:**	14-Aug-2014
Managing Unit:	SASDA	**Lending Instrument:**	Investment Project Financing
Sector(s):	Irrigation and drainage (60%), Crops (25%), General water, sanitation and flood protection sector (15%)		
Theme(s):	Rural services and infrastructure (50%), Water resource management (30%), Analysis of economic growth (20%)		

Financing (In USD Million)

Total Project Cost:	237.00	Total Bank Financing:	173.90
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	63.10
International Development Association (IDA)	173.90
Total	237.00

Environmental Category:	B - Partial Assessment
Is this a Repeater project?	No

B. Project Objectives

The main development objective of the project is to improve irrigation efficiency leading to improved agricultural productivity in Sindh. The objective will be achieved through: improved command area water delivery mechanism; improved field irrigation and agronomic practices, and increase in crop diversification.

C. Project Description

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

Component A: Community Water Infrastructure Improvement (Total: USD 120 million, IDA USD 98.4 million)

Sub-Component A1: Community Water Course Improvement (Total USD 108.0 million, IDA USD 86.4 million).

This component will cover improvement of water courses, which constitutes the tertiary level water distribution system 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 6,000 will be improved through the provision of lining (corresponding to 30% of all watercourses). 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; (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. Activities under this component will include development of selection criteria, farmer mobilization, establishment of Water Course Associations (WCAs) and their registration, survey and design, and construction. The activities will be undertaken by the field teams under the DGAWM based in all districts. The project will offer guidance on employing variety of lining materials, to be selected by the farmers. Construction will be administered by the farmers as well, and supervised by design and supervision consultants who would also facilitate farmers in efficient and economic sourcing of the material. As indicated above, this activity is well tested and has been successfully implemented throughout Pakistan and in Sindh under the ongoing project. The district level branch offices of the DGAWM will implement this component. The DGAWM with its branch offices at the district level will implement this component. Third party consultants will provide supervision to the construction. M&E consultants will be reporting on the impact of the activity, and perform environmental and social audit under this component.

Sub-Component A2: Mitigating Flood Risk For the Poor (Total USD 12.0 million, IDA USD 12.0 million).

During the two successive 2010 and 2011 floods, farmers in many areas of Sindh experienced flooding followed by long periods during which standing, stagnating water destroyed crops, irrigation systems, food and seed stock, livestock, and homesteads. The direct and indirect losses to the agriculture sector was estimated to be over USD 300 million in 2011, and over USD 400 million in 2010 with reconstruction costs of much higher magnitude. These floods have disproportionately affected the very poor, small farmers and landless in rural Sindh, as the loss of livelihood was much greater given their limited assets. Poor communities, especially those who could not afford to improve their homestead on their own in these areas, have been requesting flood/raised shelters to avoid total loss of livelihood in the event of another disaster. To extend the benefits of the project to the rural poor, this component will provide support for socially and culturally appropriate community flood shelters/centers to be built in areas subject to frequent flooding and on an on-demand basis with communities/public sector providing the land to facilitate construction. Under the project about 70 shelters in 7 vulnerable districts will be built. These facilities will provide shelters to the communities during floods, where they can also store their seed grain, food stock, and livestock. These shelters are especially important for the landless and the very poor, particularly women, children, elderly and disabled among them, where their life savings include the animals they own and food stock they consume. Because mostly there are no large planned villages in rural Sindh as people

mostly live in small or scattered settlements, these shelters will also be used for community activities where the population can exchange ideas on farming, animal husbandry, health, nutrition, and education - and where women can share their many talents in crafts for which Sindh is famous. 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. Strong community participation and willingness to contribute in kind with strict norms will be used for wider community participation. Common village lands, government owned lands or lands donated by beneficiary communities will be used for construction of these shelters. Other options including public sector involvement in the use and maintenance of these facilities are being explored. Links are being built with UNICEF Mother and Child Program, the World Bank financed Nutrition and Education Projects and others to utilize these facilities for promotion of women's interests and to prevent potential capturing of these facilities by powerful land lords in these areas. Water Course Associations will also be encouraged to use these shelters as their meeting points/small offices.

Component B: Promotion of High Efficiency Irrigation Systems (HEISs) (Total USD 90.0 million, IDA USD 54.0 million)

This component will support construction of high efficiency irrigation systems such as drip, bubbler, and sprinklers for horticulture, vegetables, floriculture and other high value and row crops. The component also will finance the associated training of department staff and farmers including women in the installation, utilization, and O&M of the HEISs. The latter will be installed on about 20,000 ha of (~80,000 acre) irrigated and irrigable land. Drip irrigation is expected to become the dominant irrigation technology to be promoted on 2 ha (5 acre), 4 ha ((10 acre) and 10 ha (25 acre) plots. Smaller units will be encouraged where possible for wider area coverage of the technology and facilitate access of small farmers. The primary target of this activity will be growers of vegetable/ cash crops, newly established orchards and other high value and row crops such as cotton, and areas that are not served by the existing irrigation network, that is rainfed areas, especially small farms situated in the outskirts of large metropolitan areas (peri-urban agriculture) where farmers have easy access to the cities and markets where the demand for cash crops and early or off season vegetables is high. The HEIS will be installed by a service provider and given on a shared cost basis, where the project will cover 60 percent of the cost of works, and the farmers will pay the remaining 40 percent. In Sindh province there are numerous capable service providers that can render the necessary services. A technical assistance package will be provided by the vendors to the farmers to promote, adoption of the new technology. In addition, technical assistance and training will be provided to farmers through Component D of the project. Given the novelty of this technology in Sindh, a social awareness campaign and farmer mobilization will be initiated and in each Field Team one person will be trained in O&M of HEIS and will be responsible for promoting the technology to the (individual) farmers, farmers' groups and WCAs. If needed, small pilot plots of 1-2 ha (2.5--5 acre) each will be initiated and set up in each district to demonstrate the benefits of an HEIS.

Component C: Improved Agriculture Practices (Total USD 14.0 million, IDA USD 8.5 million)

This component will support the following sub-components:

Sub-Component C1: Laser Land Leveling and Deep Plowing (Total USD 10.0 million, IDA USD 4.5 million). Under this sub-component, the project will provide for precision land leveling equipment and associated deep ripping which will result in higher efficiency and productivity of water use. Laser land leveling saves up to 30% of irrigation water, results in uniform seed germination, and increases fertilizer uptake, which enhances crop yields by up to 20%, especially in crops irrigated by flooding system. Given the location of Sindh in the delta area, where there are sandy loam soils and

hard pans, the project will also introduce and finance a limited amount of equipment for periodic deep-ripping before laser leveling. The impact of periodic deep ripping in Sindh is especially important and will enhance the impact of laser leveling in areas with deep rooted crops such as cotton. The project will provide equipment for deep ripping and the laser leveling to service providers on a shared cost basis. It is estimated that a total number of 2,200 Laser leveling unit capacity in the Province will be created in Sindh under the project. The service providers will carry out both services to interested farmers on a chargeback basis

Sub-Component C2: Improved Agriculture Production Technology (Total USD 4.0 million, IDA USD 4.0 million). This sub-component will support improvement in agronomic practices in the form of demonstration and assistance in improved and modern technologies as well as methods to increase agriculture production. These will include: (a) assistance to the establishment/expansion of farmers' information kiosks. The latter have been established with good results under the ongoing project for the left bank of the Indus. Under this project more information kiosks for water use associations will be established to serve the areas not covered by the current project; (b) training of trainers and farmers in agricultural input application including fertilizers and pest management; (c) training and technical assistance in alternative field irrigation practices including promotion of HEIS and associated crop diversification; (d) capacity building of farmers and he Agriculture Extension Department (AED) in pest management as well as knowledge sharing with international organizations; and (e) awareness campaign through mass media. To implement this sub-component together with provision of training in HEIS O&M, the project will finance technical assistance and training consultants with experience in implementation and operation, irrigation scheduling, crop technologies and irrigation agronomy, particularly for the high value crops. Under the ongoing project, an agency was successfully recruited to help in provision of services for input supply producing good results. Continuing with this approach will certainly improve AED services.

Component D: Project Management, Technical Assistance (TA), Training, Studies, Monitoring and Evaluation (Total USD 13.0 million, IDA USD 13.0 million)

This component will support project management, construction supervision, M&E, studies, technical assistance, and staff training.

Sub-Component D1. Detailed Design and Construction Supervision (USD 9.0 million, IDA 9.0 million). Under this sub-component, the project will finance design and construction consultants to supervise construction of the water courses improvements, HEIS and flood shelters. They will work closely with the Project Implementation Unit, TA consultants and M&E consultants. They will also carry out various studies to be prepared under the project.

Sub-Component D2. Monitoring and Evaluation (M&E) of Project Impact (USD 3.0 million, IDA USD 3.0 million). This sub-component will cover M&E of the project's impacts. 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: (a) implementation progress, including spot checking of works and quality of construction, and targeting of works as compared to agreed criteria; (b) project impacts; and (c) environmental and social impacts particularly on small and marginalized farmers and female farmers. The DGAWM will also have dedicated staff working in M&E activities and act as counterparts for these consultants.

Sub-Component D3. Studies and Training (USD 1.0 million, IDA USD 1.0 million). This sub-

component will support strategic studies and pilot projects that will be identified during project implementation. It will also support training, in particular training for project staff, and the provision of TA when and where needed.

D. 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.

E. Borrowers Institutional Capacity for Safeguard Policies

DGAWM office will mainly be responsible for the implementation of the project. This office is currently implementing Bank-funded Sindh OFWM project and successfully implemented project ESMP. DGAWM office has appointed one of its Deputy Director as the environmental focal person who through support of Water Management Officers at Taluka level are responsible to provide oversight for the implementation of ESMP. DG's office had also hired consultancy supervision consultants, which also includes support to implement ESMP. Besides, DG's office has experience of working with other donors. An acceptable capacity for the preparation and implementation of Bank's safeguards policies and country's Environmental regulatory requirements therefore exist, however it will further be strengthened during the implementation of proposed project.

F. Environmental and Social Safeguards Specialists on the Team

Chaohua Zhang (SASDS)

Javaid Afzal (SASDI)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
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 inthe 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 will prepare 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 some civil works, particularly for the construction of some 70 new shelters. These land needs are expected to be met through community donor or possible negotiated market transactions. The borrower will develop an involuntary resettlement framework to address any possible adverse impacts associated with land needs.
Safety of Dams OP/BP 4.37	No	The project interventions do not involve any kind of works on small/medium or large dams including diversion dams in the project area therefore this policy is not triggered. Majority of

		the activities are limited to the existing irrigation system and those too at the farm level.
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 byimprovement 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.

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 30-Nov-2013

B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing[1] should be specified in the PAD-stage ISDS:

It is envisaged that safeguards related studies will be completed before appraisal, but in case of any comments during appraisal, the studies will be revised. November 30, 2013

IV. APPROVALS

Task Team Leader:	Name: Mahwash Wasiq	
Approved By:		
Regional Safeguards Coordinator:	Name: Francis V. Fragano (RSA)	Date: 12-Nov-2013
Sector Manager:	Name: Simeon Kacou Ehui (SM)	Date: 12-Nov-2013

Public Disclosure Copy

[1] Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.