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Office of Afghanistan & Pakistan Affairs (OAPA)

INITIAL ENVIRONMENTAL EXAMINATION

PROGRAM/ACTIVITY DATA

Country Code: 306
Program Area: Agriculture
Assistance Objective: Sustainable Agriculture-led Economic Growth
Intermediate Results: Vibrant and Prosperous Agriculture Sector Developed
Country or Region: Afghanistan
Activity Name: Rehabilitation of Agriculture Irrigation Networks (RAIN)
Funding Period: Oct /2016 to Oct/2020
Life of Project (LOP) Amount: \$20 Million
IEE Prepared by: Michael Manella
Date: 9/28/2016
IEE Amendment (Y/N): N

ENVIRONMENTAL ACTION RECOMMENDED:

Categorical Exclusion	<input checked="" type="checkbox"/>	Deferral	<input type="checkbox"/>
Positive Determination	<input type="checkbox"/>	Negative Determination	<input type="checkbox"/>
Negative Determination With Conditions	<input checked="" type="checkbox"/>	Exemption	<input type="checkbox"/>

Climate Change
 Vulnerability Risk None Low Medium High

1.0 PURPOSE, BACKGROUND AND ACTIVITY DESCRIPTION

1.1 Purpose and Background

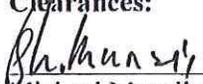
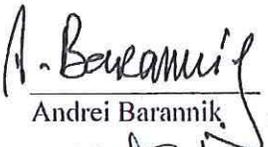
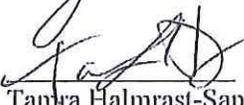
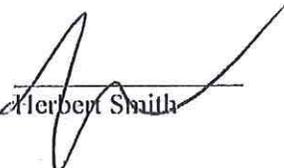
The purpose of this Initial Environmental Examination (IEE), in accordance with 22 CFR 216, is to provide the first review of the foreseeable effects on the environment, as well as the threshold determinations for the proposed Rehabilitation of Agriculture Irrigation Networks (RAIN) activity.

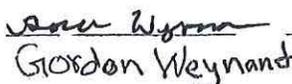
The IEE provides a brief statement of the factual basis for the Threshold Decision whether an Environmental Assessment or an Environmental Impact Statement is required for the subject activity.

DCN: OAPA-17-NOV-AFG-0003

APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTIONS

Rehabilitation of Agriculture Irrigation Networks (RAIN), IEE

	Clearances:	Date:
A/COR, OBM, Activity Manager	<i>for</i>  Michael Manella	<u>27 Oct, 2016</u>
Office Director, OAG	 Gary Robbins	<u>27 OCT 16</u>
Mission Environmental Officer	 Harry Bottenberg	<u>10/26/2016</u>
Regional Environmental Advisor SCA & OAPA	 Andrei Barannik	<u>10-26-2016</u>
Resident Legal Officer <i>w/ comments</i>	 John "Greg" Butler	<u>10/29/2016</u>
Deputy Mission Director	 Tanwa Halmrast-Sanchez	<u>10/30/2016</u>
Mission Director	 Herbert Smith	<u>11/1/2016</u>

	Approval:	Date:
Bureau Environmental Officer for <i>Office of</i> Afghanistan and <i>Pakistan</i>	 Gordon Weynand	<u>11/2/16</u>

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1.0 PURPOSE, BACKGROUND AND ACTIVITY DESCRIPTION

1.1 Purpose and Background

The purpose of this Initial Environmental Examination (IEE), in accordance with 22 CFR 216, is to provide the first review of the foreseeable effects on the environment, as well as the threshold determinations for the proposed Rehabilitation of Agriculture Irrigation Networks (RAIN) activity.

The IEE provides a brief statement of the factual basis for the Threshold Decision whether an Environmental Assessment or an Environmental Impact Statement is required for the subject activity.

1.2 Background

Development and management of irrigation water to increase crop productivity is the key to agriculture development in Afghanistan. Afghanistan is a country of 30 million people, of which over 75 percent live in rural areas depending on agriculture for a living. The agriculture sector is a major driver of economic growth, but is highly dependent on rainfall, seasonal river flows and inefficient irrigation systems. In addition, severe watershed degradation due to loss of forests, loss of vegetation cover, extensive soil erosion and desertification have made the problem worse as this degradation compounds the impact of floods and droughts resulting in low water productivity and economic growth.

Three decades of conflict have destroyed existing water infrastructure and severely limited new investments, leaving Afghanistan with one of the lowest levels of water storage capacity in the world. Consequently, abundant water during the rainy season cannot be stored to meet demand during shortage periods. Recognizing Afghanistan's vulnerability to climate change, reforms in on-farm water practices are critical to improving agricultural productivity and food security, while simultaneously protecting and managing the country's water resources through improved data collection, natural resources and watershed management. Afghanistan's irrigation system, which uses 80 percent of the country's water supply, is inefficient, losing more than 60 percent of water between source and crop application. This limits water availability for downstream users. Further, traditional canal systems have fallen into disrepair, and rehabilitation is needed. Improving irrigation systems is the top priority among male Shuras, but women traditionally are not involved in water management, including decision-making regarding irrigation. This situation perpetuates inequitable access to food security and household incomes across the gender divide. Afghanistan needs revitalized irrigation systems, more-efficient farming irrigation techniques, and greater inclusion of women in the decision-making process of water management.

1.3 Lessons learned from past USAID Agriculture activities:

In the past, USAID has implemented projects that were not very much focused on the rehabilitation of irrigation systems except for the Integrated Watershed Management Project (IWMP). However, the project was terminated. Lessons learned that are applicable in the context of the RAIN project are summarized in Annex 1.

1.4 Activity Description

The Rehabilitation of Agriculture Irrigation Network (RAIN) project is designed to assist the Ministry of Agriculture Irrigation and Livestock (MAIL) to rehabilitate irrigation schemes in the country and build the MAIL, their staffs and community counterparts to better manage water resources. Specifically, RAIN's objectives are to: 1) Increase the sustainable and productive use of water in agriculture in Afghanistan through irrigation system rehabilitation and establishment

of Irrigation Associations; and, 2) Strengthen the capacity of the Irrigation directorate to design, survey, ensure socio-environmental consideration and monitor and evaluate the project.

Under the government-to-government structure of the RAIN activity, MAIL takes the lead in processing all financial, legal and administrative actions in order to finance small-scale irrigation rehabilitation. The RAIN project will provide operational and programmatic support to the Tashkil staff (civil servants) of the Irrigation Directorate. The ultimate goal is to enhance the capacity of Taskils in the irrigation directorate to manage future projects with little reliance on external technical assistance. The RAIN project, under the leadership of the Irrigation Director or Deputy Irrigation Minister, will establish a technical team comprised of technical and managerial advisors that will enhance the technical capabilities of the Tashkil staff, institutional relationship and complementary program interventions with OFWM and SWIM projects. Specifically, this activity will support MAIL in ensuring accountable, effective, and efficient usage of USAID on-budget funding and facilitating the transfer of knowledge and skills through on-the-job training and coaching.

A summary of MAIL's activities under RAIN project are:

- Establishment of a technical team (including staff with environmental expertise) within irrigation directorate to support RAIN.
- Conduct training to support overall capacity building of staff in the Irrigation Directorate staff (national and sub-national).
- Support the ministry in the development of policies and strategies related to infrastructure needs.
- Provision a budget for all activities under its purview.
- Select the irrigation schemes, conduct baseline assessment and the feasibility study and pass these to the technical experts hired under this project.
- Lead all actions pertaining to environmental quality control and safeguards and share them with the technical expert.
- Receive completed design from the technical experts.
- Create tender for local contractors based on technical expert design.
- Establishment of irrigation associations and their capacity building.
- Process valid bids and select winners.
- Communicate with Technical Experts regarding completed structures.
- Ensure all contract requirements have been met.
- Pay all contractor payments, and provide office space for the technical team.
- Process necessary internal financial, legal, and administrative processes, including budgets, payments, technical planning documents etc., necessary to meet RAIN's objectives.
- Provide staff in MAIL and/or the Irrigation Directorate sufficient to execute required processes.
- Meet budget execution requirements in a timely manner sufficient to finance activities under RAIN.
- Perform monitoring and evaluation of the project activities.
- Take into account issues of gender equality and female empowerment.
- Integrate climate change into planning and project management within the ID and MAIL.

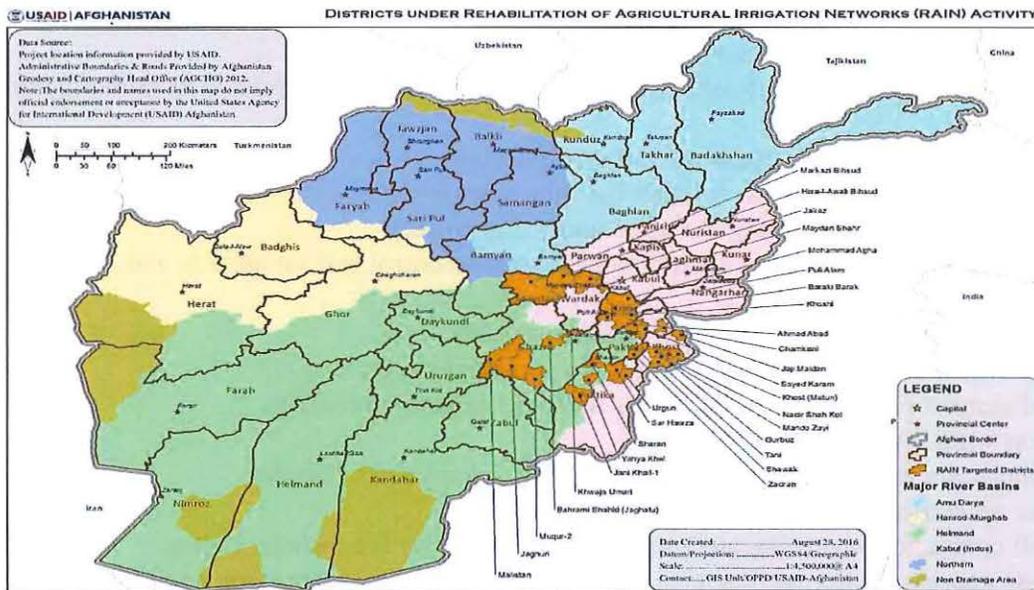
The expected results from RAIN activities are:

- Rehabilitation of 25,000 hectares of deteriorated irrigation infrastructure¹.
- Strengthen the capacity of the Irrigation Directorate to design, survey, ensure socio-environmental considerations and monitor and evaluate the activity/project.

2.0 COUNTRY AND ENVIRONMENTAL INFORMATION²

2.1 Locations Affected

This project will be implemented in provinces where fund has not been allocated in the past either by the Ministry or the donors. These provinces include Logar, Wardak, Paktia, Paktika, Khost and Ghazni. The considered provinces are also aligned with provinces selected under the Citizen Chartered National Priority Program of the Government of Afghanistan where irrigation rehabilitation is an important pillar and component of the program. As an alternative in case of security problem at any of these provinces; Farah, Nimroz and Uruzgan will be taken into consideration.



¹ The areas for rehabilitation are not yet known. However, the activity will take place in 30 districts in 6 provinces, selected for their alignment with the Citizen's Charter, the absence of previous irrigation projects in these areas, and characteristics such as low water efficiency, poor agronomic practices, poor water management practices, and high poverty rate. There are no transboundary effects.

² Please see: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/04/12/000333037_20100412001029/Rend ered/PDF/522110ESW0Whit1anistan0Final0Report.pdf; http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/01/11/000333037_20110111004513/Rend ered/PDF/E26350SAR1EA1P1Box353824B01PUBLIC1.pdf; http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/11/16/000334955_20101116014820/Rend ered/PDF/E25860EA0P12031Framework1appraisal.pdf;

The selected provinces are proposed by the Irrigation Directorate. The information on water availability is unknown. However, the rehabilitation will only focus on surface water, not aquifers. Irrigation rehabilitation is one of the key priorities of the Ghani's Administration and it is also reflected in the National Irrigation Program (NIP) and the National Agriculture Development Framework (NADF).

2.2 Socio-economic baseline

Afghanistan is located in Central Asia, north and west of Pakistan, and east of Iran. Afghanistan's economy has improved significantly since the fall of the Taliban regime in 2001 largely because of the infusion of international assistance, the recovery of the agricultural sector, and service sector growth. Despite the progress of the past few years, Afghanistan is extremely poor, landlocked, and highly dependent on foreign aid, agriculture, and trade with neighboring countries (Table 1). Much of the population continues to suffer from shortages of housing, clean water, electricity, medical care, and jobs. Insecurity and the Afghan government's inability to extend rule of law to all parts of the country pose challenges to future economic growth. It is expected to take the remainder of the decade, and continuing donor aid and attention, to significantly raise the average Afghan's living standards from its current level, which is among the lowest in the world. While the international community remains committed to Afghanistan's development, pledging over \$24 billion at three donor conferences since 2002, Kabul will need to overcome a number of challenges, including expanding poppy cultivation, budget sustainability, job creation, corruption, government capacity, and rebuilding war torn infrastructure.

Degradation of the environment and depletion of natural resources are significant and visual consequences of the long period of instability, including depletion of forest cover by 66.5 percent in the south-eastern part of the country over the last 30-year period. Wood is still the main source of energy for over 90 percent of households. Despite the country's challenges, the Afghan government, the United States, and international donors are committed to improving access to basic necessities by prioritizing infrastructure development, education, housing development, jobs programs, and economic reform. Reconstruction projects include national and provincial road construction, water management studies, and alternative power initiatives like micro-hydro power stations.

2.3 Policy, Legal and Regulatory Framework and International Conventions

The primary relevant laws and legislations framing social and environmental issues are: The Environment Law of Afghanistan (2007), the Land Expropriation Law (2005), the Water Law (2004), and the Law on the Preservation of Afghanistan's Historical and Cultural Heritages (2004).

Afghanistan is a party to international agreements on Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Marine Dumping, and Ozone Layer Depletion. The country also signed the agreement for Hazardous Waste which was recently ratified.

2.2 Environment Law of Afghanistan, 2007

The Environment Law requires the Afghan government to adopt necessary measures to protect natural forests and living conditions of the country. The National Environmental Protection Agency (NEPA) is responsible for the implementation of this law. Following international best practices, NEPA mandates that new activities are screened for potential adverse effects and possible impacts and, if such impacts are likely, a comprehensive mitigation plan is developed for review and approval before the activity can proceed.

In June 2009 NEPA issued the first Afghanistan list of the protected species, which included 46 species.

2.4 Land Expropriation Law (LLE), 2005

The LLE sets out the provisions governing the expropriation or acquisition of land for public interest purposes, such as the establishment/construction of public infrastructure or for acquisition of land with cultural or scientific values, land of higher agricultural productivity and large gardens. It declares, *inter alia*, that: a) acquisition of a plot or portion of a plot of land for public use is decided by the Council of Ministers and is compensated at fair value based on current market rates (Article 2); b) the right of the owner or land user will be terminated three months prior to the start of civil works on the project and after the proper reimbursement to the owner or person using the land has been made (Article 6); c) the value of land, value of houses and buildings on the land and value of trees and other assets on the land will be considered for compensation (Article 8); and f) compensation is determined by the Council of Ministers. The Law, however, is silent on resettlement. It makes no special provision for a resettlement plan or indeed any arrangements for resettlement.

2.5 Water Law, 2004

The Water Law lays out a model for managing Afghanistan's water resources following the principles of Integrated Water Resources Management (IWRM). The law calls for a nested governance structure for water resources decision-making, including participatory models of community-based management through Water User Associations (WUAs) and Irrigation Associations (IAs), operating within a decision-making framework of River Basin Authorities (RBAs) and River Basin Councils (RBCs) in the five major river basins and 41 sub-basins of the country. It sets out requirements for sustainable water allocation and use, and establishes sanctions and penalties for noncompliance.

2.6 Law on Preservation of Afghanistan's Historical and Cultural Artifacts, 2004

According to The Law on the Preservation of Afghanistan's Historical and Cultural Artifacts, operations that cause destruction or harm to the recorded historical and cultural sites or artifacts is prohibited (Art. 11, Art. 16). The law provides guidelines for how to deal with historical and cultural artifacts if they are discovered.

Table 1. Selected data for Afghanistan

Socio-Economic Data	Natural Resources/Environment Data		
Total Population- 35.32 million (in 2011)	Land use	hectares	% of total
Population Growth Rate (annual %)- 2.03	Irrigated agricultural land	3,302,007	5.11%
Urban Population (% of total)- 5.69 million (21.9%)	Orchards	94,217	0.15%
Life Expectancy (years)- 49	Rain-fed Agricultural Land	4,517,714	7.00%
Infant Mortality Rate (per 1,000 live births)- 111	Forest Area	1,337,582	2.07%
GDP (current \$)- 19.5 billion (2011)	Total Pasture Area	29,176,732	45.19%
<u>GDP breakdown:</u> Agriculture 34.9 %, Industry 25 %	Total Land Other-Arid/Desert	26,131,144	40.48%
Services- 40 %	Total Land Area	64,559,396	
GDP Growth (annual %)- 8.5	Population Density- 54.70 persons/km2 (in 2011)		
Inflation (annual %)- 4.8	<u>Livestock:</u> Cattle: 3.72 million, Sheep: 8.77 million		
Unemployment Rate (annual %)- 35	Goats: 7.28 million		
	Deforestation Rate (% of change)- 66.5 % (1971-1999)		
	Improved Water Source (% of pop. with access)- 42%		
	Electricity Consumption - 2.226 billion kWh (2009 est.)		

3.0 RECOMMENDED THRESHOLD DECISIONS AND MITIGATION ACTIONS

Below are the recommended actions for the activities described above, their impacts on the environment and recommended Threshold Determinations and Conditions, if any:

Activity	Effects on natural or physical environment	Recommended Threshold Determination
<ul style="list-style-type: none"> ● Establishment of a technical team within irrigation directorate to support RAIN. ● Conduct training to support overall capacity building of staff in the Irrigation Directorate staff (national and sub-national). ● Support the ministry in the development of policies and strategies related to infrastructure needs. ● Provision a budget for all activities under its purview. ● Communicate with Technical Experts regarding completed structures. ● Ensure all contract requirements have been met. ● Pay all contractor payments. ● Provide office space for the technical team. ● Process necessary internal financial, legal, and administrative processes, including budgets, payments, technical planning documents etc., necessary to meet RAIN's objectives. ● Provide staff in MAIL and/or the Irrigation Directorate sufficient to execute required processes. ● Meet budget execution requirements in a timely manner sufficient to finance activities under RAIN. ● Perform monitoring and evaluation of the project activities. 	<p>No effect</p>	<p>Categorical Exclusions, no action required per 22 FR 216.2(c)(2)(i), (iii), (v) and (xiv)</p>

<ul style="list-style-type: none"> • Take into account issues of gender equality and female empowerment. • Integrate climate change into planning and project management within the ID and MAIL. 		
<p>Irrigation system rehabilitation :</p> <ul style="list-style-type: none"> • Select the irrigation schemes, conduct baseline assessment and the feasibility study and pass these to the technical experts hired under this project. • Receive completed design from the technical experts. • Create tender for local contractors based on technical expert design; • Establishment of irrigation associations and their capacity building. • Lead all actions pertaining to environmental quality control and safeguards and share them with the technical expert. 	<p>Limited environmental and social impact if Conditions adhered to</p>	<p>Negative Determination with Conditions per 22 CFR 216.2(d)(1)(ii)</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Technical capacity building training modules will be reviewed by Mission Environmental Officer (MEO) prior to implementation. • MAIL will develop an appropriate Environmental Mitigation and Monitoring Plan (EMMP) for all rehabilitation of irrigation system and will approved by MEO. (See ANNEX II for template) • Ensure all rehabilitation activities are designed and conducted in an environmentally sound manner and best practice and international standards are incorporated. • For sub-grants to local companies for irrigation system rehabilitation an Environmental Review Form and Review Report (ERF/ERR) shall be reviewed by the MEO for approval. (See ANNEX III for template)

Table 1. Proposed activities and recommended threshold decisions for the RAIN project.

4.0 CLIMATE CHANGE RISK SCENING

Afghanistan is extremely vulnerable to the impacts from global climate change. Temperatures have been rising and are expected to rise even more and there is an increase in the frequency of extreme weather events such as droughts and rainstorms which may affect water availability and affect crop and livestock production. To minimize the negative impacts of climate change, USAID is required by Executive Order 13677 to incorporate climate change risk screening for all new projects as of October 1, 2016. RAIN is a new project and a climate change risk screening analysis will be conducted by MAIL. This analysis may help the project to adjust its activities to better adapt to climate change and maximize results.

Annex IV is a partially completed risk screening that MAIL is expected to complete the rest of the table with a supporting narrative on how climate change will be streamlined across project activities.

5.0 ENVIRONMENTAL RECOMMENDATIONS

Recommended Action: *Categorical Exclusions* (25 % of funding)

Rehabilitation of Agriculture Irrigation Networks (RAIN) activities under objective 2 do not have an effect on the natural and physical environment fit within the categories listed in 22 CFR 216.2 (c)(2) and are categorically excluded from any further environmental review requirements. The originator of the proposed action has determined that the proposed activities are within the following classes of actions:

- Education, technical assistance, or training programs, except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.). [22 CFR 216.2(c)(2)(i)];
- Analyses, studies, academic or research workshops and meetings. [22 CFR 216.2(c)(2)(iii)];
- Document and information transfers. [22 CFR 216.2(c)(2)(v)]; and
- Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent designed to result in activities directly affecting the environment (such as construction of facilities, etc.). [22 CFR 216.2(c)(2)(xiv)].

Recommended Action: *Negative Determination with Conditions* (75 % of funding)

Activities under objective 1 (Increase the sustainable and productive use of water in agriculture in Afghanistan through irrigation system rehabilitation and establishment of Irrigation Associations) are determined Negative Determination with Conditions can have a potential negative impact on the environment but with appropriate mitigating measures these impacts will be avoided or minimized to acceptable levels. Conditions involving technical capacity building, irrigation system rehabilitation, and site selection will be conducted in a manner that is environmentally sound and safe and consistent with international best management practices according to the U.S., Afghanistan or equivalent standards acceptable to USAID.

MAIL shall develop an Environmental Mitigation and Monitoring Plan (EMMP) for rehabilitation activities which are considered Negative Determination with Conditions. This shall be reviewed and approved by the Mission Environmental Officer (MEO) in consultation with the Regional Environmental Advisor (REA). No new on-site activities shall commence before the EMMP is approved by the MEO and the EMMP shall be implemented during the subject work.

In addition, a Negative Determination with Conditions is recommended in the instance that sub-grants are awarded. Conditions involve the use of an environmental request form (ERF) and environmental review report (ERR) which will assist in identifying potential environmental impacts that are likely to occur as a result of such sub-grants that are not clear at this point in time. The ERF/ERR will help to classify such potential impacts into low risk, medium risk and

high risk categories so that appropriate mitigation and monitoring measures can be identified for all medium and high risk categories.

6.0 LIMITATIONS OF THE RCE

This IEE does not cover the following:

- Assistance, procurement or use of genetically modified organisms (GMOs) will require preparation of biosafety assessment (review) in accordance with ADS 201.3.12.2(b) in an amendment to the IEE approved by OAPA BEO.
- DCA or GDA programs.
- Procurement or use of Asbestos Containing Materials (ACM) (i.e. piping, roofing, etc.), Polychlorinated Biphenyl (PCB) containing transformers, or other hazardous/toxic materials for construction projects, including lead and mercury.
- Procurement, use, or recommendation for use of pesticides both in agriculture and construction. The contractor shall prepare a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) or see which existing valid PERSUAPs can be amended for the purpose of the project.
- Procurement or use of Ammonium Nitrate (AN) and Calcium Ammonium Nitrate (CAN) fertilizers.
- Procurement or use of nonnative species.

Any of these actions would require an amendment to the IEE and the BEO/OAPA approval by the BEO/OAPA.

7.0 REVISIONS

Pursuant to 22 CFR 216.3(a)(9), if new information becomes available which indicates that activities to be funded by the project might be “major” and the project’s effect “significant,” or if additional activities are proposed that might be considered “major” and their effects significant, this IEE will be reviewed and revised by the originator of the project and submitted to the BEO/OAPA for approval and, if appropriate, an environmental assessment will be prepared. It is the responsibility of the USAID COR/AOR to keep the Mission Environmental Officer, USAID/Afghanistan and the BEO/OAPA informed of any new information or changes in scope and nature of the activity that might require revision of the IEE.

APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTIONS

Rehabilitation of Agriculture Irrigation Networks (RAIN), IEE

	Clearances:	Date:
A/COR, OBM, Activity Manager	_____ Michael Manella	_____
Office Director, OAG	_____ Gary Robbins	_____
Mission Environmental Officer	_____ Harry Bottenberg	_____
Regional Environmental Advisor SCA & OAPA	_____ Andrei Barannik	_____
Resident Legal Officer	_____ John "Greg" Butler	_____
Deputy Mission Director	_____ Tamra Halmrast-Sanchez	_____
Mission Director	_____ Herbert Smith	_____

	Approval:	Date:
Acting Bureau Environmental Officer for Afghanistan and BEO/ ME	_____ John Wilson	_____

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ANNEX I. Lessons learned from past USAID agriculture activities

a. Irrigation and Watershed Management Program (IWMP): The Office of Agriculture (OAG), recognizing the critical importance of water for agricultural productivity and economic growth, began implementing an Irrigation and Watershed Management Project (IWMP) in January 2013. USAID made the difficult decision to terminate the contract in November 2013 and reprogram the funds into new irrigation and watershed management activities. This project highlighted several programmatic issues; such as, the use of an Indefinite Quantity Contract (IQC) managed out of DC that limited the selection of contractors. In addition the Scope of Work was very broad, and in some cases vague. Ultimately, the project was recommended for termination for two key reasons: 1) the overall program development failed to respond to the current development context; 2) and poor contractor performance.

Some of the technical lessons learned from this project include:

- Working on-budget possess several challenges. The IWMP had a \$100 million component to be implemented by MAIL. However, the process of developing and approving an Implementation Letter was delayed, resulting in no activities being implemented on the MAIL portion of the project.
- Both MEW and MAIL must be part of the project design and implementation. Water Law stipulates that MAIL is responsible for overseeing irrigation; however, MEW is ultimately responsible for water rights. As the responsibilities currently sit, MEW holds nearly all water data and water planning mechanisms. Therefore, to plan and manage irrigation MAIL and MEW must engage together.
- Irrigation projects need to work closely with other USAID agriculture projects, particularly RADPs, to maximize project synergies.
- A comprehensive watershed management plan will be key (this fits into the Afghanistan National Development Strategy (ANDS) and its proposed adoption of Integrated Water Resource Management (IWRM principles) to meeting the water supply needs of Afghanistan's growing agriculture sector and agricultural-based development objectives;
- The effective use of technology (e.g., remote sensing and ArcGIS) for data gathering, watershed mapping, and watershed short- and long-term management plans are essential;
- Addressing these needs in a watershed context will allow for establishing correlations between land management and water supply – both in terms of quality and quantity;
- The broad scope of, and the multitude of, issues and challenges implementers face in addressing activities along the continuum of the river basin, from catchment to “on farm” water use, are often too broad for any given project to adequately handle, given the limited resources and time frames involved, which necessitates a focus on specific elements of the problem; and
- Watershed management and restoration needs broader coordination with various stakeholders at the national, provincial and district level. Including the provincial authorities and communities, especially women (which requires a thorough understanding and proper planning in the Afghanistan context), during all the stages, starting from planning through implementation, would contribute to the sustainability of the programs.

b. Incentives Driving Economic Alternatives – North, East, West (IDEA-NEW): IDEA-NEW began in March, 2009 and ended in 2015. Funded at \$150 million, the program was being implemented by a prime implementer, Development Alternatives, Inc. (DAI). All three implementers have conducted numerous irrigation rehabilitation projects including canal intakes, canal construction and karez (underground canal system that taps aquifers by gravity) improvement. DAI has completed a number of infrastructure projects involving improved irrigation, thus having a potentially large impact on agricultural production. Mercy Corps has implemented a number of gabion walls in their region that will bring a large number of hectares (approximately 450) into cultivation. At this point in time this work looks to have a major impact on agricultural production. ACDI/VOCA completed a substantial effort to support over 117 agricultural distribution centers and its extended value chain throughout its operational region. Clearly, community-based infrastructure and associate cash for work has been a success for each of the IDEA-NEW implementers. The project has brought more land into production, as a result of the extensive irrigation infrastructure work. No illicit crops were observed in the field where there was improved irrigation. These projects had an impact on both annual staple and vegetable crops as well as perennial horticulture. Ultimately, more than 4,000 ha of irrigated land were gained through this project, to the aid of more than 11,000 Afghan families.

- a. **Afghanistan Water, Agriculture and Technology Transfer (AWATT):** The AWATT program introduced water management practices and agricultural technologies that routinely increased agricultural output per unit of land by 50 percent or more and increased the area of cultivatable land by nearly 9,000 hectares. AWATT activities created direct employment for some 2,500 temporary full-time equivalent jobs and resulted in increasing cultivatable land area which created employment potential for 134,000 additional permanent farm jobs. AWATT provided training opportunities for more than 6,600 individuals, including more than 500 MAIL staff and 330 women.

AWATT provided insight into Integrated Water Management, appropriate agricultural technology, and providing technical assistance to MAIL. AWATT developed an efficient and equitable community-based irrigation water resource distribution and management system that led to improved agricultural productivity such as; crops assessments and analyses of irrigation systems provided insight for improving water delivery systems and water use efficiency; training five hundred Mirabs; the rehabilitation of 12 canals and karezes increased the amount of cultivatable land by 8,940 hectares, impacting 120,000 people in 40 villages; improved natural resource management was implemented on 709 hectares through the construction of terraces, check dams and the establishment of tree seedlings; water conservation technologies such as laser land leveling and drip irrigation demonstrated increased yield potential for a variety of crops.

- b. **Afghanistan Pastoral Engagement, Adaptation, and Capacity Enhancement (PEACE) Project:** USAID's PEACE Project conducted by a team from the University of California, Davis, Texas A&M University, and Mercy Corps, ran from July 1st, 2006 until October 31st, 2012. The mission of the PEACE Project was to improve extensive livestock production in Afghanistan which represents a significant portion of the Afghan economy. The main focus for the first four years of the project was to institutionalize within the Ministry of Agriculture, Irrigation and Livestock (MAIL) rangeland

management tools and approaches that deal with the risk inherent in livestock operations for migratory headers in Afghanistan. These included a Livestock Early Warning System (LEWS) to predict where annual forage occurred, Nutritional Profiling System (NIRS technology) that provides critical data for the operation of LEWS, and a Livestock Market Information System (LMIS) that helps herders efficiently market their products.

There were several important lessons from this effort. The lessons learned include the following:

- It is critical to develop trust and demonstrate a commitment to the needs of Afghans
- Empowerment and skill-building were keys to the success of this effort – the participants were proud to be responsible for solving their own conflicts rather than having someone dictate the results for them.
- Coordination with Government and local NGO partners was essential – the government was able to identify the specific need and locate the appropriate participants; the local
- NGO made sure that the messages were culturally appropriate.
- Building peace takes time. More time spent facilitating these kinds of efforts will result in bigger gains and stronger local support.

c. **Alternative Development Irrigation Canal Improvements and Maintenance Project:** As part of the Alternative Development Project PADCO started its project for canal improvements and maintenance in the North in 2005, it decided³ to undertake the annual cleaning of many irrigation canals. In 2006, PADCO cleaned 102 canals in 13 districts using Cash for Work funds; minor structural repairs were also made on some. The total cost was \$995,941.⁴ All canals have to be excavated yearly to remove silt and repair the banks, preferably in late winter before the snow-melt, and on the larger canals on flat land many hundreds of persons have to do this heavy hand work, sometimes for several weeks. Throughout Afghanistan, usually under the Mirab (local irrigation manager assigned by irrigators' consensus), each irrigating household has to send one workman for this.

The project shed light on several issues resulting in a set of lessons learned. The project implementers suggest any future USAID project to involve irrigation must promote organization of water user associations for canal management and productivity enhancement according to these Government policies. It should also arrange training for Water Management Department officers, who are typically engineers not familiar with social organization and agronomy. And it must arrange extended and repeated trainings of Mirabs and lead farmers in courses which are well developed internationally, such as:

- Methods of water measurement and equitable distribution
- Structures and their maintenance
- On-farm water management

³ Cleaning of these canals is said to have been done at the suggestion of the Provincial Governor

⁴ List and cost compiled from "USAID Faizabad Office Project Tracking Sheet"

- Raising and management of resources
- Organizational aspects of WUAs

Annex II

EMMP Template:

RAIN

Environmental Mitigation and Monitoring Plan (EMMP)

The EMMP must be completed by each organization carrying out activities under the USAID/Afghanistan XXX Program. It will include the organization's own report plus the EMMPs of any sub-awardees, to capture the entire range of activities funded by the USAID/Afghanistan XXXX Program under the award. The USAID/Afghanistan XXXX Program, implementing partners are responsible for ensuring that each sub-awardee completes and submits the EMMP to the prime in a timely fashion. The EMMPs are reviewed and approved by the COTR/AOTR and the Mission Environmental Officer.

The EMMP consists of 3 parts:

1. The Environmental Verification Form
2. The Mitigation Plan for specific environmental threats carried out by the implementer
3. The Reporting Form

The EMMP Environmental Verification Form

This form indicates the categories of activities carried out by implementing partners (or their sub-awardees) and serves to 'trigger' USAID expectations of mitigation measures.

The EMMP Mitigation Plan

Implementing partners will use the Mitigation Plan to describe the specific actions they will undertake under each category of activity when screening reveals potential environmental threats as outlined in Section 3 of this IEE. In these cases, mitigation will be undertaken as described in Section 5, Table 4 of this IEE. The Mitigation Plan also identifies the person responsible for monitoring compliance with mitigation and the indicator, method and frequency of monitoring.

The EMMP Reporting Form

This form reports on the results of applying the mitigation measures described in the Mitigation Plan and identifies outstanding issues with respect to required conditions. In some cases, digital photos will be the best way to document mitigation and should be included in the report.

EMMP Part 1 of 3: Environmental Verification Form

Name _____

Name of Prime Implementing
Organization: _____

Name of Sub-awardee Organization (if this EMMP is
for a sub):

Geographic location of USAID-funded activities
(Province, District): _____

Date of
Screening: _____

Funding Period for this award: FY ____ - FY ____

Current FY Resource Levels: FY _____

This report prepared by:

Name: _____ Date: _____

Date of Previous EMMP for this organization:
_____ (if any)

Indicate which activities your organization is implementing under this funding:

Key Elements of Program/Activities Implemented	Yes	No
--	-----	----

1	<ul style="list-style-type: none"> • education, technical assistance or training programs • analyses, studies, academic or research workshops and meetings; • document and information transfers; • Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent designed to result in activities directly affecting the environment (such as construction of facilities, etc.); 		
2	Development and dissemination of improved agricultural production technologies for selected crops and livestock		
3	Increased agricultural production		
4	Seeds, Germplasm, Exotic Species		
5	Dissemination of biotechnology products		
6	Small-scale construction or rehabilitation of buildings and water & sanitation infrastructure		
7	Sub-Grants		

USAID/Afghanistan ----Project Name-----

EMMP Part 2 of 3: Environmental Mitigation and Monitoring Plan

Category of Activity	Describe specific environmental threats of your organization's activities (based on analysis in Section 3 of the IEE)	Description of Mitigation Measures for these activities as required in Section 5 of IEE	Who is responsible for monitoring	Monitoring Indicator	Monitoring Method	Frequency of Monitoring

USAID/Afghanistan, ----Project Name----

EMMP part 3 of 3: Reporting form

List each Mitigation Measure from column 3 in the EMMP Mitigation Plan (EMMP Part 2 of 3)	Status of Mitigative Measures	List any outstanding issues relating to required conditions	Remarks



Certification

RAIN EMMP Clearance

I certify the completeness and the accuracy of the mitigation and monitoring plan described above for which I am responsible and its compliance with the IEE:

Signature

Date

Print Name

Organization

BELOW THIS LINE FOR USAID USE ONLY

USAID/Afghanistan, _____ Program, Clearance of EMMP:

COR/AOR: _____ Date: _____

Mission Environmental Officer: _____ Date: _____

As appropriate: REA, BEO [depending on nature of activity, which potentially may require an EA]

Note: if clearance is denied, comments must be provided to applicant



USAID | AFGHANISTAN

FROM THE AMERICAN PEOPLE

Environmental Review Form for subprojects/subgrants

A. Applicant information

Organization	Parent grant or project
Individual contact and title	Address, phone & email (if available)
Proposed subproject /subgrant (brief description)	Amount of funding requested
	Period of performance
	Location(s) of proposed activities

B. Activities, screening results, and findings

Proposed activities (Provide DESCRIPTIVE listing. Continue on additional page if necessary)	Screening result (Step 3 of instructions)			Findings (Step 6 of instructions. Complete for all moderate/unknown and high-risk activities ONLY)		
	Very Low Risk	High-Risk*	Moderate or unknown risk*	significant adverse impacts are very unlikely	With specified mitigation, significant adverse impacts	Significant Adverse impacts are possible
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

*These screening results require completion of an Environmental Review Report

C. Certification:

I, the undersigned, certify that:

1. The information on this form and accompanying environmental review report (if any) is correct and complete.
2. Implementation of these activities will not go forward until specific approval is received from the C/AOTR.
3. All mitigation and monitoring measures specified in the Environmental Review Report will be implemented in their entirety, and that staff charged with this implementation will have the authority, capacity and knowledge for successful implementation.

(Signature) _____ (Date) _____

(Print name) _____ (Title) _____

Note: if screening results for *any activity* are "high risk" or "moderate or unknown risk," this form is not complete unless accompanied by an environmental review report.

BELOW THIS LINE FOR USAID USE ONLY

Notes:

1. For clearance to be granted, the activity MUST be within the scope of the activities for which use of the ERF is authorized in the governing IEE. **Review IEE before signature.** If activities are outside this scope, deny clearance and provide explanation in comments section. The Partner, C/AOTR, MEO and REA must then confer regarding next steps: activity re-design, an IEE or EA.
2. Clearing an ERF containing one or more findings that **significant adverse impacts are possible** indicates agreement with the analysis and findings. It does NOT authorize activities for which "significant adverse impacts are possible" to go forward. It DOES authorize other activities to go forward. The Partner, C/AOTR, MEO and REA must then confer regarding next steps: activity re-design, an IEE or EA.

Clearance record

C/AOTR <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
USAID/Afghanistan MEO <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
Regional Env. Advisor (REA) <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)
Bureau Env. Officer (BEO)* <input type="checkbox"/> Clearance given <input type="checkbox"/> Clearance denied	(print name)	(signature)	(date)

C/AOTR, MEO and REA clearance is required. BEO clearance is required for all "high risk" screening results and for findings of "significant adverse impacts possible. The BEO may review "

Note: if clearance is denied, comments must be provided to applicant (use space below & attach sheets if necessary)

Environmental Review Report

- A. Summary of Proposal.** *Very briefly summarize background, rationale and outputs/results expected. (Reference proposal, if appropriate).*
- B. Description of Activities.** *For all moderate and high-risk activities listed in Section B of the ERF, succinctly describe location, siting, surroundings (include a map, even a sketch map). Provide both quantitative and qualitative information about actions needed during all project phases and who will undertake them. (All of this information can be provided in a table). If various alternatives have been considered and rejected because the proposed activity is considered more environmentally sound, explain these.*

- C. Site-specific Environmental Situation & Host Country Requirements.** *Describe the environmental characteristics of the site(s) where the proposed activities will take place. Focus on site characteristics of concern—e.g., water supplies, animal habitat, steep slopes, etc. With regard to these critical characteristics, is the environmental situation at the site degrading, improving, or stable?*

Also note applicable host country environmental regulations and/or policies. (For example, does the project require host country environmental review or permitting? Building approval? Etc.)

NOTE: provide site-specific information in this section, NOT country-level information. General information about country level conditions should already be contained in the IEE governing the XXX project/program.

- D. Environmental Issues, Mitigation Actions, and Findings.** *Using the table provided, identify all potential impacts for each activity. These must include all phases (planning & design, construction and handover, operation, and decommissioning). Explain direct, indirect, induced and cumulative effects on various components of the environment (e.g., air, water, geology, soils, vegetation, wildlife, aquatic resources, historic, archaeological or other cultural resources, people and their communities, land use, traffic, waste disposal, water supply, energy, etc.) Indicate also positive impacts and how the natural resources base will be sustainably improved. Identify actionable mitigation actions to avoid, reduce or compensate for negative impacts, such as restoration of borrow or quarry areas, replanting of vegetation, compensation for any relocation of homes and residents. Mitigation actions should be assigned to the responsible party, for example the construction contractor, the implementing partner, the beneficiaries.*

Project Phase and Activity	Potential Environmental Impact	Mitigation Action
Planning and Design		
Construction and Handover		

Operation		
Decommissioning		

E. Environmental Mitigation and Monitoring Plan (EMMP). *Set out how compliance with mitigation actions will be monitored/verified. This includes specifying WHO will be responsible for the various mitigation actions, and HOW implementation of the mitigation actions will be tracked/verified.*

Also specify how you will report to USAID on the implementation of mitigation actions. (You are REQUIRED to provide your C/AOTR with sufficient information on the status of mitigation implementation for USAID to effectively fulfill its oversight and performance monitoring role.)

Again, choose a format and structure that presents the necessary information clearly and succinctly. EMMPs are typically in table format, and often include a compliance log or “monitoring record” section that records implementation status of the various mitigation actions. The EMMP with current monitoring log can then simply be submitted to the C/AOTR with the quarterly or 6-month project report, satisfying the environmental compliance reporting requirement. .

The most basic EMMP format is

Mitigation action	Responsible Party	Monitoring/Verification Method	Monitoring Record (date, result, corrective actions taken, if any)

For additional EMMP formats and examples, see the ENCAP EMMP factsheet, available via www.encapafrika.org/meoEntry.htm

F. Other Information. *Where possible and as appropriate, include photos of the site and surroundings; maps; and list the names of any reference materials or individuals consulted.*

(Pictures and maps of the site can substantially reduce the written description required in parts B & C)

ANNEX IV

Climate Risk Analysis table (to be completed by IP)

Objective	Defined/ Illustrative Interventions	Risks List all risks related to defined/ illustrative interventions that were identified in the screening and additional analysis (to be revised if necessary by IP)	Risk Rating High/ Moderate/ Low: to be completed by IP	How Risks are Addressed To be completed by IP: Describe how the risks have been addressed and/ or additional steps that will be taken to address the risk. If you have chosen to accept the risk, briefly explain why.
Objective: Strengthen the capacity of the Irrigation directorate to design, survey, ensure socio-environmental consideration and monitor and evaluate the project.	<ul style="list-style-type: none"> Establishment of a technical team within irrigation directorate to support RAIN, 	<ul style="list-style-type: none"> Damage of agricultural infrastructure due to flooding Increased soil erosion due to flooding Soil salinity Reduced yields Changes in the incidence of crop Pests and livestock diseases Decreased soil fertility Heat stress for livestock and field workers Etc Etc Etc 		
	<ul style="list-style-type: none"> Conduct training to support overall capacity building of staff in the Irrigation Directorate staff (national and sub-national) 			
	<ul style="list-style-type: none"> Support the ministry in the development of policies and strategies related to infrastructure needs. 			
	<ul style="list-style-type: none"> Provision a budget for all activities under its purview. 			
	<ul style="list-style-type: none"> Lead all actions pertaining to environmental quality control and safeguards and share them with the technical expert; 			
	<ul style="list-style-type: none"> Process valid bids and select winners; 			
	<ul style="list-style-type: none"> Communicate with Technical Experts 			

	<p>regarding completed structures;</p> <ul style="list-style-type: none"> • Ensure all contract requirements have been met; • Pay all contractor payments and provide office space for the technical team • Process necessary internal financial, legal, and administrative processes, including budgets, payments, technical planning documents etc., necessary to meet RAIN's objectives • Provide staff in MAIL and/or the Irrigation Directorate sufficient to execute required processes; • Meet budget execution requirements in a timely manner sufficient to finance activities under RAIN; and • Perform monitoring and evaluation of the project activities • Take into account issues of gender equality and female empowerment. • Integrate climate change into planning and project management within the ID and MAIL 			
Objective 2: Increase the sustainable and productive use of water in agriculture in Afghanistan through irrigation system rehabilitation and establishment of Irrigation	<p>Technical capacity building and irrigation system rehabilitations:</p> <ul style="list-style-type: none"> • Select the irrigation schemes, conduct baseline assessment and the feasibility study and pass these to the technical experts hired under this project. • Receive completed design from the technical experts. 	<ul style="list-style-type: none"> • Damage of agricultural infrastructure due to flooding • Increased soil erosion due to flooding • Soil salinity • Reduced yields • Changes in the incidence of crop 		

Associations	<ul style="list-style-type: none"> • Create tender for local contractors based on technical expert design. • Establishment of irrigation associations and their capacity building. 	Pests and livestock diseases <ul style="list-style-type: none"> • Decreased soil fertility • Heat stress for livestock and field workers • Etc • Etc • Etc 		
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