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# **ADVANCED SCIENCE & PARTNERSHIPS FOR INTEGRATED RESOURCE DEVELOPMENT PROJECT**

**QUARTERLY REPORT**

**July-September 2016**

October 2016

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# Advanced Science & Partnerships for Integrated Resource Development

## QUARTERLY REPORT FOURTH QUARTER FY 2016

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## List of Acronyms

ASPIRED	Advanced Science and Partnerships for Integrated Resource Development
ATTC	Aquaculture Technology Transfer Center
AAB	Ararat Artesian Basin
BMO	Basin Management Organization
BMP	Basin Management Plan
CADI	Computer Assisted Development, Inc.
CEW	Clean Energy and Water
CoP	Chief of Party
COR	Contracting Officer's Representative
DO	Development objective
DSS	Decision Support System
EA	Environmental Assessment
EC	European Commission
EIMC	Environmental Impact Monitoring Center
EMMP	Environmental Mitigation and Monitoring Plan
ERGIS	Environmental Research and GIS
ESS	Environmental Scoping Statement
EU	European Union
GIS	Geographic Information System
GOA	Government of Armenia
HMC	Hydrogeological Monitoring Center
ICARE	International Center for Agribusiness Research and Education
IEE	Initial Environmental Examination
IR	Intermediate Result
ITF	Interagency Task Force
The Lab	U.S. Global Development Lab
ME&A	Mendez England and Associates
MoA	Ministry of Agriculture
MNP	Ministry of Nature Protection
MoENR	Ministry of Energy and Natural Resources
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
PEER	Partnership for Enhanced Engagement and Research
PMP	Performance Management Plan
PSRC	Public Services Regulatory Commission
QA/QC	Quality Assurance and Quality Control
SCADA	Supervisory Control and Data Acquisition
SCWS	State Committee on Water Systems
SOW	Scope of Work
SWCIS	State Water Cadaster Information System
TO	Task Order
WRMA	Water Resources Management Agency
WADI	Water and Development Indefinite Delivery/Indefinite Quantity Contract
WUA	Water User Association
WUP	Water Use Permit
USAID	United States Agency for International Development
USATF	United States-Armenia Task Force
USGS	United States Geological Survey

## 1. Executive Summary

This Report describes the programmatic activities implemented by the Advanced Science and Partnerships for Integrated Resource Development (ASPIRED) Project in the fourth quarter of Year 1 of the project, covering the period of July 1 through September 30, 2016. The Quarterly Report reviews progress and achievements in each of the Project areas during the reporting period, and describes planned activities for the next quarter. The report also highlights challenges and actions taken to address these challenges. In addition to providing highlights from the last quarter of Year 1, the Report also highlights key accomplishments achieved during the project over its first year.

### 1.2 ASPIRED Summary

On September 29, 2015, the United States Agency for International Development (USAID) awarded Mendez England & Associates (ME&A) a contract to implement the ASPIRED project under the Water and Development IDIQ (WADI). The purpose of the ASPIRED project is to support sustainable water resource management and sustainable practices of water users in the Ararat Valley through the use of science, technology, innovation and partnership initiatives. The ultimate goal is to reduce the rate of groundwater extraction in the Ararat Valley to the sustainable levels.

To this end, the ASPIRED project will be focused on several critical areas:

1. Water Resource Data
2. Technology
3. Regulatory framework/enforcement of laws
4. Coordination across stakeholders

The ASPIRED project places a strong emphasis on building partnerships with the U.S. Global Development Lab (the Lab), the US Geological Survey (USGS), the private sector, research organizations and international donors to pilot innovative water and energy efficiency technologies, and to promote better water resource monitoring, planning and sustainable management.

### 1.3 Main Highlights from Quarter 4 and Year 1 of the ASPIRED Project

- Project Management and Administration:
  - The ASPIRED team submitted and received USAID approval for the Year 2 Work Plan in September 2016.
  - In September 2016, USAID expanded the ASPIRED project SOW and extended its duration by 18 months, which extended the ASPIRED contract performance period to five years from September 28, 2015 through September 27, 2020 and increased its budget by \$1,999,581.00 to a total of \$4,991,630.00.
- Data component:
  - In September 2016, the ASPIRED team completed the inventory of the groundwater wells and springs in the Ararat Valley. The ASPIRED team submitted to USAID the following three deliverables for the Year 1:
    - Data Availability and Gap Analysis Report
    - Conceptual Scheme of the Decision Support Tools for the Ararat Valley
    - Progress Report on inventory of groundwater wells, natural springs and fish farms in the Ararat Valley
  - The project acquired satellite imagery for the Ararat Valley catchment. The

ASPIRED team will use the high resolution (3 meters) images captured during Summer 2015, to conduct thorough classification of the land cover and land use of the area.

- The project team facilitated the USGS training program for the local specialists in inventory of groundwater wells, groundwater monitoring techniques and data collection protocols. The ASPRIED team submitted the proceedings of the training program to USAID in April 2016.
- The Government of Armenia (GOA) approved the Southern Basin Management Plan (BMP) in May 2016. This plan has been prepared by the ME&A team under the USAID funded Clean Energy and Water Program (CEWP). To support the adoption of the plan, the ASPIRED team, which had been involved in the preparation of the Plan, provided clarifications to the Deputy Minister on approaches and methods used for estimating the volumes of ecological flow in the rivers, national and strategic water reserve, cost-estimates for selected technical measures and sources of the funding. The Deputy Minister utilized this information for his presentation at the Ministers Advisors Committee session on May 12. The team also worked with the specialists of the Water Resource Management Agency (WRMA) on incorporating the Ministers Advisor Committee's comments in the Southern BMP.
- Technology component:
  - The ASPIRED team prepared and submitted to USAID the "Assessment of Opportunities for Application of Advanced Technologies in Armenia in the Aquaculture Sector" report. The report analyzes technologies and best practice of the aquaculture sector and provides recommendations on the locally applicable technologies.
  - In May 2016, the ASPIRED team began implementation of the irrigation improvement project in Hayanist in collaboration with Environmental Research and GIS (ERGIS) and Coca-Cola HBC.
- Legal component:
  - In December 2015 the ASPIRED team established the Interagency Task Force (ITF) to study the issue of groundwater use fees for fisheries of the Ararat Valley and provide recommendations to the Government. During Quarter 4 of Year 1, the ASPIRED team, in coordination with a team of international and national experts, integrated feedback from the ITF meetings into the "Achieving Sustainable Groundwater Water Use in the Ararat Valley: Role of the Fisheries Sector" report.
  - In August 2016, the project team conducted a survey to analyze the situation regarding water supplies in the affected communities and Water User Associations (WUAs) of Ararat and Armavir Marzes experiencing dramatic shortage of drinking and irrigation water due to the reduction of the groundwater level in the Valley. The survey was one component of the study on optimal groundwater use fee for the fisheries.
- Performance Management, Communication and Donor Coordination component:
  - In addition to submitting the Year 2 Annual Work Plan, the ASPIRED team submitted the Performance Monitoring Plan (PMP) and M&E Plan for Year 2.
  - The project team prepared and submitted to USAID the Stakeholders' Mapping Report and the Stakeholders Matrix for the ASPIRED Project.
  - In July 2016, USAID launched the public-private partnership with Coca-Cola HBC, based on which the Coca-Cola HBC shares the cost of the Hayanist irrigation project. Coca-Cola HBC will be also involved in the installation of Supervisory

- Control and Data Acquisition (SCADA) systems in the fisheries of Ararat Valley.
- The ASPIRED Project established its partnership with ERGIS for pilot project implementation in Hayanist.
  - The redesign and launch of the ASPIRED Facebook page and the new web page are accessible via the following links: <https://www.facebook.com/aspired.project/> and [www.aspired.wadi-mea.com](http://www.aspired.wadi-mea.com).

## 2. Summary of Performance Indicators

Summary of performance indicators for the fourth quarter of FY 2016 (Year 1 of the project) is presented in the table below.

	Indicator	Target for Year 1	Quarter 4	LOP (as of end of Year 1)	Frequency of reporting	Notes: Descriptions/Comments/Assumptions
1.1.1	Percent (of total) of datasets for the Ararat Valley publicly accessible	-	-	-	Annual	No data sets were anticipated for Year 1. Total # of the main datasets are required which shall be incorporated in the geo-coded system for evidence-based decision making. 80% of all datasets available on Ararat valley will be made public which is actually 100% of all the data which can be made publicly available in compliance with the RA legislation. The data will be disaggregated by ASPIRED project and USGS, Global Lab in proportions. Further projections (setting of targets) on data disaggregation by these agencies will be possible to make based on the Y1 outcomes.
1.1.2	Percent (of total) wells mapped in the Ararat Valley.	30%	58 %	85%	Annual	2807 wells with the depth of more than 50 meters were inventoried, yet the data analysis still in the process. ASPIRED and HMC are verifying the data, and minor corrections will still be made to the final inventory data in October-November 2016. In addition, GIS mapping is underway using inventory data.  The data analysis still in progress. ASPIRED and HMC are in the process of data verification for which minor corrections will still be made to the final inventory data in October-November 2016.

1.1.3	Number of stakeholders engaged in data collection activities	5	-	7	Annual	The target for Year 1 includes existing ASPIRED stakeholders (four government agencies and PEER grantee, all engaged in data collection activities). ASPIRED works with these organizations, plus two more stakeholders - the USGS and the Institute of Water Problems - are likewise engaged in the collection of data on groundwater resources in the Ararat Valley. The ASPIRED collaborates with the USGS under the data component.
1.2.1	GIS based DSS for the Ararat Valley developed	-	-	-	End of project	No GIS based DSSs were anticipated in Year 1.
1.3.1	Number of fisheries with automatic data system installed	-	-	-	Annual	Installation of automated data systems was not anticipated in Year 1. Installation is planned to start from Y2.
1.4.1	Percent (of total) coverage of groundwater extraction points monitored <sup>1</sup>	-	-	-	Annual	The updated definition of this indicator is “the percent of the groundwater extraction wells covered by the monitoring system (SCADA) installed under the ASPIRED project versus the total number of the operational groundwater wells available in the fisheries”. The total number of the operational wells in the fisheries is reportedly about 500. This figure may slightly change based on the clarified results of the well inventory and thus affect the actual data.
2.1.1	Number of groundwater extraction reduction technologies piloted and evaluated	-	-	-	Annually	No pilot activities regarding groundwater extraction reduction technologies were anticipated for Year 1. The activities are planned for Y2.
2.1.2	Thousands of cubic meters of water saved annually in Ararat Valley	-	-	-	Annually	The target is contingent upon indicator 2.1.1 which is set 0 for Y1.

<sup>1</sup> About 3,318 groundwater wells existed in the Ararat Valley in 2014, out of which 1,096 wells were operational and used for various purposes according to WUP data as presented in the Draft Ararat Valley Management Plan. About 250 wells used by fish farms were monitored by HMC in 2014-2015 (based on contracts), 44 wells used by water supply companies for drinking purposes were monitored, 3 groundwater wells used in fish farms were monitored using automated online monitoring system (with EU funding). Thirty more wells in selected fish farms will be monitored with ASPIRED funding by the end of the project. It is also expected that the percent of groundwater extraction monitored will increase gradually as a result of improved regulations on compliance and enforcement and strengthened capacities of the SEI and BMOs

2.2.1	Number of water use-related energy efficiency and/or renewable energy technologies piloted and evaluated	-	-	-	Annually	No pilot activities regarding water use-related energy efficiency and/or renewable technologies were anticipated for Year 1. The activities are planned for Y2.
2.2.2	Megawatt hour of energy saved annually	-	-	-	Annually	This target is contingent upon indicator 2.2.1. No pilot activities related to indicator 2.2.1 were anticipated for Year 1. These activities are planned for Y2..
2.2.3	Clean energy generated annually	-	-	-	Annually	This target is contingent upon indicator 2.2.1. No pilot activities related to indicator 2.2.1 were anticipated for Year 1. These activities are planned for Y2.
2.2.4	Gains in the reduction of GHG emissions as a result of USG assistance	-	-	-	Annually	This target is contingent upon indicator 2.2.1. No pilot activities related to indicator 2.2.1 were anticipated for Year 1. These activities are planned for Year 2..
2.3.1	Number of successful technologies recommended and shared with stakeholders and policy-makers	-	-	-	Annually	The number of recommended and shared technologies was not anticipated for Year 1.
2.4.1	Number of technologies to permanently close illegal or abandoned wells piloted	-	-	-	Annually	The number of piloted technologies was not anticipated for Year 1.
3.1.1	Number of trainings for building capacity of MNP including BMO in groundwater monitoring	-	-	1	Annually	No training was anticipated for Quarter 4 of Year 1. The ASPIRED team supported the USGS in organizing the well inventory training for its stakeholders during Quarter 2 of Year 1 of the project.
3.1.2	Number of ministry staff (and other agencies) trained in sustainable water resource management, including environmental compliance.	-	-	-	Annually	The indicator refers to the trainings on enhanced up-to-date SWCIS and MIS for the Ararat Valley and on enhanced transparent water use permitting, control and oversight systems. The indicator will be disaggregated by gender.
3.2.1	Number of workshops and consultations with stakeholders to discuss water fee levels	4	-	4	Annually	Four ITF meetings were organized during the first 3 quarter in Year 1 This activity will continue till December 2016.
3.3.1	Package of recommendations to address water permitting monitoring and enforcement measures provided to GoA	-	-	-	Annually	The targets set in the PMP refer to the package of recommendations, drafted by ASPIRED and submitted to the Government. This target was not anticipated for Year 1.

4.1.1	Number of international and local organizations participating in the system mapping activities	8	0	17	Annually	The system mapping report was completed and submitted to USAID in May. The report will be updated annually.
4.2.1	Percent of total funding leveraged from stakeholders for water resources management activities.	-	-	-	Annually	This indicator refers to the in-kind and financial contribution to be made by implementing partners. It will be reported in the next quarter, subject to the completion of the project when the real figures on the cost share are provided by the partners.
	Percent of population living in targeted areas with improved water management	-	-	-	Annually	The target will be estimated upon completion of projects with the community impact.
	Number of key implementation steps taken to improve water management in Ararat Valley	1	1	1	Annually	The inventory of groundwater wells and springs was completed in September 2016.

### 3. Program Implementation

#### Water Resource Data

In Year 1, the ASPIRED team worked with its subcontractor, the Hydrogeological Monitoring Center (HMC), to complete the inventory of the wells and springs of Ararat Valley – an important milestone for the Data task in Year 1. The ASPIRED Team and HMC conducted measurements in 2807 groundwater wells, 9 groups of the natural springs and 235 fish farms. According to the field measurements, actual use of groundwater resources by wells in the Ararat Valley in 2016 comprised 1.6 billion m<sup>3</sup>. 135 fish farms out of 235 were operational in the Ararat and Armavir Marzes in 2016, with 809,067.2 m<sup>3</sup>/year total water abstraction. HMC submitted the draft report on inventory to ASPIRED for review in Q 4.

HMC submitted a draft final report presenting the results of the filed inventory. The ASPIRED team and HMC will finalize the report for a presentation to the stakeholders in November 2016.

During Year 1, the ASPIRED team regularly monitored the inventory process by means of field observations. The ground-truthing specialist under the ASPIRED project conducted random checks to Ararat and Armavir Marzes to inspect the quality and accuracy of the datasets generated by the HMC specialists. In fact, HMC maintained adequate level of the work and addressed minor deficiencies and comments made by the team. In addition, the ASPIRED team continues to provide technical assistance to the HMC. During Quarter 4, for instance, the ASPIRED team prepared maps covering about 100 communities for HMC to utilize during field measurements.

To ensure the long-term sustainability of the products and capacity building programs of the ASPIRED project and the buy-in of the MNP in this process, the ASPIRED team and its subcontractor for the data component, Computer Assisted Development, Inc. (CADI), streamlined the technical approaches and methods of implementing activities on improved data collection and management systems, namely: organization of the groundwater inventory and other data in the State Water Cadaster Information System (SWCIS); use of high resolution satellite imagery for generation of additional datasets; development of decision support tools; and provision of capacity building programs. The ASPIRED team proposed a new training approach to the WRMA, i.e. organizing regular on the job training to the WRMA designated staff to ensure their involvement as the stakeholders in the process of developing and calibrating the tools for the hydrological and hydrogeological analysis for the Ararat Valley.

In September 2016, the ASPIRED team initiated discussions on further enhancement of the SWCIS with the WRMA and the Information Analytical Center of the Ministry of Nature Protection (MNP). The ASPIRED Project's software engineer assessed the current status of the SWCIS, based on which the team discussed with the WRMA a scope of the further improvements of the system. The WRMA prepared and sent to the ASPIRED team the draft list of items for improvement of the SWCIS. The list featured a mix of technical requirements related to re-structured database (i.e. water use permit (WUP) and actual water use, etc.) and calculations to aid in decision making (i.e. determination of water balance, ecological flow, water surplus or deficit, etc.). The ASPIRED team found that while some proposed items for the improvements pertained to the SWCIS, there were items which went beyond the concept and functionality of the SWCIS as a repository of data. These are mostly for various decisions support tools and not for the SWCIS. The ASPIRED team will continue consultations with the MNP/WRMA staff on the SWCIS issue in the next quarter and identify the best solution that responds to the technical objectives of the SWCIS.



*Satellite imagery for the Ararat Valley catchment provided by the Lab's GeoCenter to the ASPIRED Project.*

In July 2016, the Lab's GeoCenter provided high resolution multi-band satellite images for the Ararat Valley to the ASPIRED Project to be used for further ground-truthing and analytical work. The ASPIRED team communicated problems that occurred while downloading images to the Lab, who addressed these issues accordingly. During Quarter 4 of Year 1, the ASPIRED team also started discussions with the USGS to request their assistance in using the MODFLOW hydrogeological model, which will form part of the decision making tool to be developed for the Ararat Valley.

## Low Cost and Water Efficiency Technologies

During the fourth quarter of Year 1, the ASPIRED team focused its efforts on the implementation of the irrigation rehabilitation project in Hayanist, in close coordination and cooperation with Coca-Cola HBC and ERGIS NGO, and on the design of the Aquaculture Technology Transfer Center (ATTC) project concept. In July, USAID and Coca-Cola HBC signed the Memorandum of Understanding (MoU) on the implementation of this project and installation of SCADA systems at fish farms in Hayanist.

To implement the Hayanist project, the ASPIRED team focused on the following activities:

- Selection of the contractors for the trench work, supply of pumps/construction of the pumping station and supply/installation of the pipes
- Communication with the project parties to ensure smooth implementation of the project
- Monitoring of the contractors' work

To date, the ASPIRED team completed the construction of the water intake facility and the pumping station, including installation of pump controls and connection to the grid. Photos of the work in progress are available on the ASPIRED web page. To address unexpected delays in the signing of the contract between the supplier and Coca-Cola HBC, the ASPIRED team has undertaken steps to speed up the pumps delivery and installation process to ensure that all activities are completed in a timely manner.



*The photo to the left: the trenches for the pipework to follow. To the right: the pumping station – semi-constructed and completed.*

During Quarter 4 of Year 1, the ASPIRED team also prepared the concept paper covering the ATTC project, which aims to establish a best practice fish farm to serve as a base for demonstrating innovative aquaculture and water saving technologies, with special emphasis on the water-energy nexus. Estimates were made for different types of technologies to be introduced at the demonstration fish farm. The ASPIRED team prepared the draft concept paper and discussed the paper with the project parties. The ASPIRED team will submit the finalized concept paper to

USAID in October 2016. The technologies outlined in the concept paper are based on the analysis of feasible technologies provided in the [Assessment of Opportunities for Application of Advanced Technologies in Armenia in the Aquaculture Sector](#) report, the key project deliverable under the Technology task of the ASPIRED project, which the ASPIRED team submitted to USAID in May 2016.

## Water Regulation and Enforcement

The objective of the legal component during Year One of the ASPIRED Project was to provide recommendations to the GOA on the optimal water fee rates for the use of groundwater by fisheries. In coordination with the MNP, the ASPIRED team facilitated the establishment of the Interagency Task Force (ITF), consisting of representatives from government agencies, the Committee on Agriculture of the National Assembly, the President's and Prime Minister's Offices, NGOs, and the private sector. The ITF mandate was to study the optimal water fee rates for water abstraction by fisheries in Ararat Valley and provide recommendations to the government. The ITF held four meetings over the last year, during which discussions focused mainly on optimal groundwater use fees, mechanisms of fee calculation and applicability of the block scheme, economic analysis of the fish farming sector in Armenia and its trends, and the impact of fish farms on the rural sector of the region.

Generally, the ITF provided a platform for opinion sharing among the policy makers, NGO representatives and groundwater users, i.e. fish farms. During Quarter 4 of Year 1, the ASPIRED team worked alongside a team of international and national experts to integrate the feedback from ITF members and their organizations into the document titled "Achieving Sustainable Groundwater Water Use in the Ararat Valley: Role of the Fisheries Sector".



*The presentation of the economic analysis of the fish farming industry in Armenia during one of the ITF meetings.*

Prior to the preparation and submission to the USAID of the above mentioned report, the ASPIRED team facilitated additional meetings with the agencies participating in the ITF work, private sector representatives, and officials from the Ministries of Nature Protection, Energy and Natural Resources, Agriculture, and Economy.. The objective of these meetings was for the ASPIRED team to present the results of the ITF work to key officials at the ministerial level, as well as to collect the stakeholders' feedback on the proposed scheme of the resource fee calculation for the use of the groundwater by fisheries. The majority of the high-profile counterparts from the ministries, including other stakeholders, argued that despite the fact that fish farmers has had the greatest negative impact on the Ararat Valley's groundwater resource, the issue of depletion of the groundwater resources is nevertheless multi-faceted and requires additional analysis from different perspectives.

To analyze the impact of the groundwater shortage on the communities of Ararat Marz vis-à-vis their economic situation, access to drinking and irrigation water, and farming opportunities, the ASPIRED Project conducted a survey among 22 affected communities and WUAs of Ararat and Armavir regions in July 2016. The ASPIRED team also obtained data from Metsamor Nuclear Power Plant regarding the latter's expenses on digging of the new wells for the plant's cooling

system. A complete analysis of this information can be found in the fee analysis report mentioned above.

The ASPIRED team plans to finalize the draft report and submit it to USAID in October 2016. The ASPIRED team will also present the draft report to policy-makers at the high-level policy meeting in November 2016. The ASPIRED team anticipates meeting participation by the Minister of Natural Resources, the Deputy Prime-Minister and the Minister of Economic Integration and Reforms, and other high-level officials. In September 2016, the team started preparations for the high-level policy meeting.

## Donor Coordination and Communications

According to the Task Order, the ASPIRED team was tasked by USAID to ensure sufficient coordination with the stakeholders at different levels, which will be aimed at avoiding duplication of efforts and attaining the most efficient utilization of available resources, both local and international.

At the start of Year 1 of the project, the ASPIRED team held intensive meetings with the existing and potential project parties from various sectors, including the government, donor community, and private and public sectors. The project team held these meetings with the ICARE, KfW, FAO, JICA, UNDP, USGS and the Lab to identify common areas for collaboration. The ASPIRED team streamlined its partnership with the Lab and USGS on the data component. One of the results worth mentioning is the provision of the high-resolution satellite imagery of the Ararat Valley to the ASPIRED by the Lab's GeoCenter.

The results of the meetings with the sector players as well as review of existing network of stakeholders in the Ararat Valley were reflected in the [Stakeholders' Mapping Report](#) submitted to USAID April 2016.



**US Ambassador to Armenia Richard Mills and the CEO of the Coca-Cola HBC in Armenia Sayyora Ayupova signing the MOU.**

The ASPIRED team marked success in its partnership efforts by starting the irrigation improvement project in Hayanist village jointly with ERGIS NGO and Coca-Cola HBC. In July, USAID, Coca-Cola HBC and the MNP signed the MoU for implementation of joint activities for promoting water stewardship in Armenia. Specifically, Coca-Cola HBC will provide the cost share for the irrigation project in Hayanist and support the installation of SCADA systems in the fisheries of the Ararat Valley.

The ASPIRED and Coca-Cola HBC teams coordinated their tasks during the organization of the signing ceremony of the MoU in July 2016.

Both teams also worked together to collect video and photo materials on Hayanist project for the future project launch event and the project storyboard. Additionally, the ASPIRED and Coca-Cola teams visited Hayanist to record video interviews with the community mayor and the project beneficiaries. ASPIRED and Coca-Cola plan to jointly organize the launch event.

The ASPIRED team also regularly updates its web and Facebook pages, both of which the ASPIRED team designed at the start of the project. In addition to posting all project announcements, news and project photos online, the ASPIRED team also shares information with USAID for reporting and outreach needs, by emphasizing the progress of the project in specific activities.

#### 4. General Administrative Issues

In addition to financial reporting and accounting, other administrative tasks referred to the following:

- The team prepared and received USAID approval of the Year Two Work Plan and the PMP.
- In September 2016, USAID expanded the ASPIRED project SOW and extended its duration by 18 months, which extended the ASPIRED contract performance period to five years from September 28, 2015 through September 27, 2020 and increased its budget by \$1,999,581.00 to a total of \$4,991,630.00.
- Administering procurement process for the services and materials required for Hayanist irrigation rehabilitation project, particularly supply and installation of pipes and fittings, pumps and control equipment as well as trench work.

#### 5. Environmental Compliance

During Quarter 4 of Year 1, the ASPIRED Project's Environmental Specialist made amendments to the environmental documents of the Hayanist project when it became known that the trenches for irrigation lines would intersect with the gas supply pipelines and necessary adjustments were necessary in the EMMP.

In September, the ASPIRED project conducted a training covering environmental compliance, health and safety requirements in Hayanist village. Participants of the on-the-job training included representatives of the community, the fish-farm and the sub-contractor involved with the construction of the pumping station.

#### 6. Planned Activities for the Next Quarter

##### 6.1 Data

- Work with the HMC to finalize the "Database on Inventory of Groundwater Wells, Natural Springs and Fish Farms in the Ararat Valley" report.
- Organize a half-day event in Yerevan to present the final results of the inventory to the stakeholders and key partners.
- Prepare the inventory database for groundwater wells and fish farms for USGS.
- Work with the MNP and WRMA on identification of fish farms in the Ararat Valley for installing the groundwater use online monitoring system (SCADA). This work must be conducted in a close cooperation with the WRMA and its Akhuryan, Hrazdan and Ararat BMOs, and other stakeholders. Design and conduct a presentation on the automated online monitoring system to the stakeholders.

- Conduct a competitive bidding process for selecting a local company for procurement and installation of flow meters and data loggers for automated groundwater use monitoring system in the selected fish farms in the Ararat Valley.
- Work with the WRMA to design the steps for enhancement of SWCIS, including integration of the field inventory and other datasets.
- Develop the GIS layers using datasets available with the ASPIRED Project and new datasets provided by the stakeholder agencies. This will include geo-referencing and digitizing paper maps on geology and hydrogeology of the Ararat Valley that were provided by the Hydrogeological Fund of the Ministry of Energy and Natural Resources and using inventory data.
- Develop a technical approach for land cover-use classification using high resolution satellite images, including methodology and timeline.
- Conduct a needs assessment of the key stakeholder organizations on the decision support tools.
- Cooperate with the USGS team on preparing the hydrogeological framework of the Ararat Valley and linking it with the Decision Support System (DSS) for the Ararat Valley water resources.

## **6.2 Pilot technologies**

- Complete the construction activities in Hayanist and follow-up on their timely completion.
- Conduct regular site monitoring.
- Submit the final concept of ATTC project to USAID and, upon approval, start the implementation of the project.

## **6.3. Legal and Policy Issues**

- Submit to USAID the draft report “Achieving Sustainable Groundwater Water Use in the Ararat Valley: Role of the Fisheries Sector” for review and comments.
- Conduct the high-level policy meeting in November 2016.
- Conduct stakeholder consultations following the high-level policy meeting to finalize the fee analysis report.
- Submit the final report to USAID by December 2016.

## **6.4 Performance Management, Communication and Donor Coordination**

- Collaborate with the Coca-Cola for the implementation of the Hayanist and other joint activities: plan the joint opening of the project.
- Provide communications support to the team as necessary during the organization of public

events and facilitate communication with USAID in event planning.

- Update the project communications resources - web site and FB pages
- Attend/facilitate communication with stakeholders.
- Follow-up on the PMP updates, prepare weekly highlights as well as monthly and quarterly reports.

### **6.5 Environmental Compliance**

- Monitor the Environmental Mitigation and Monitoring Plan (EMMP) compliance on Hayanist project sites.
- Finalize the EMMP documentation for the ATTC project.
- Conduct compliance training for project implementers.

### **6.6 Project Management**

- Manage the procurement process for the ongoing projects.
- Update the contract budget to reflect the project scope modification and the 18 months extension to the period of performance.