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Essential Services-North Final Report

Lessons Learned and Recommendations

Reporting Document
Asia and Middle East Economic Growth Best Practices (AMEG) Project
Chemonics International, Inc.
Task Order No. AID-OAA-12-00008

ESSENTIAL SERVICES-NORTH FINAL REPORT

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Cover Contractor Implemented by:

Chemonics International Inc.

Syrian children enjoying the new apple harvest in Bdama.

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ACRONYMS

ACU	Assistance Coordination Unit
AMEG	Asia and Middle East Economic Growth Best Practices
CPA	certified public accountant
ES-North	Essential Services-North Project
FSA	Free Syria Army
ISIS	Islamic State of Iraq and greater Syria
LC	local council
LLC	limited liability company
M&E	monitoring and evaluation
MOU	memorandum of understanding
OTI	Office of Transition Initiatives
SRP	Syria Regional Program
SRTF	Syria Recovery Trust Fund
START	Syrian Transition Assistance Response Team
WUA	water users association

EXECUTIVE SUMMARY

Solar panels are unloaded in Syria after being transported from Turkey. These solar panels were installed to power irrigation systems in Bdama.

The Syria Economically Essential Services Bridge activity, henceforth referred to as the Essential Services-North (ES-North) Project, implemented by Chemonics International, delivered critical infrastructure expertise through designing and implementing rehabilitation activities within Syria to restore economically essential services in coordination with the Assistance Coordination Unit (ACU) and Syrian Local Councils (LCs). One of the primary goals of ES-North was to document best practices and lessons learned for implementing economically essential services repair and rehabilitation activities in a complex conflict environment. Throughout project implementation, we continuously assessed what was working and what was not, learning from our experiences and sharing that information with USAID. After 13 months of implementation, this final report documents the project's lessons learned and recommendations for future USAID programming for rehabilitation works in Syria.

ES-North implemented four pilot activities inside Syria to restore economically essential infrastructure. A needs assessment conducted early in the life of the project determined that water, specifically water infrastructure, was critical for reinvigorating the economies of the struggling agricultural communities in northern Syria. The project operated under the following development hypotheses: 1) sustainable services delivery via clean energy builds stronger, more viable communities that are resistant to extremist groups and 2) communities with access to reliable water infrastructure are more economically productive.

With the completion of the four pilot activities, ES-North recommends the following:

1. Establish robust community buy-in through close collaboration with local and provincial councils to develop demand-driven, community-centered solutions to local problems.
2. Solar energy projects are relatively inexpensive and easily replicable.
3. Utilize existing Syrian talent by working with Syrian subcontractors to carry out the work, which has the added benefit of creating jobs for members of the local community.
4. Allow sufficient time for project start-up and activity design; the Turkish operational environment is bureaucratic and complex, and rehabilitation activities require extensive time for both design and site preparation.
5. Staffing is essential to project success, and dedicated resources are needed for procurement, monitoring and evaluation, and reporting; embedded staff from the areas where projects are active in Syria can provide oversight, project management, and real-time information on the security situation in Syria.
6. Elevate security to a project function to ensure the safety of staff and beneficiaries in a volatile operational environment.

BACKGROUND AND COUNTRY CONTEXT

ES-North was a pilot activity implemented by Chemonics International Inc., pursuant to Task Order AID-OAA-12-0008, awarded by USAID under the Asia and Middle East Economic Growth Best Practices (AMEG) project. ES-North delivered critical infrastructure expertise through designing and implementing rehabilitation activities within Syria to restore economically essential services in coordination with the ACU and Syrian LCs. One of the primary goals of ES-North was to document best practices and lessons learned from implementing economically essential services repair and rehabilitation activities in a complex conflict environment. Throughout project implementation, we continuously assessed what was working and what was not, learning from our experiences and sharing that information with USAID.

As the conflict in Syria rages on, the transition to a post-Assad regime becomes increasingly difficult. ES-North began in September 2013, when the Syrian opposition, while factionalized, was unified in toppling the Assad regime. Now, the Syrian opposition and the Free Syrian Army (FSA) are suffering setbacks on the ground and infighting among the various opposition factions has become commonplace. Infiltration by extremists, such as the foreign fighters of the Islamic State of Iraq and greater Syria (ISIS), who are widely despised by Syrians, has further divided the already splintered opposition. With at least 150,000 killed, 3 million sent abroad as refugees, and 40 percent of the population displaced by the conflict, the need for the restoration of essential services integral to the economic recovery of Syria has never been greater.

GENERAL APPROACH OF THE ESSENTIAL SERVICES–NORTH PROJECT

The restoration of essential economic infrastructure contributes to the efforts by the U.S. government and other international organizations to assist Syria. ES-North's approach to implementation focused on sustainable, community-driven solutions that benefit the economies of selected communities. This approach supports Syrian LCs in their efforts to provide local services and builds their governance credibility within their communities as viable alternatives to extremists such as ISIS. Below we describe how our pilot activities in Syria were selected, vetted, and ultimately cleared for implementation.

Activity selection. ES-North coordinated closely with the ACU and local and provincial councils to determine high-priority areas for intervention that serve to restore economic viability in their community. In Gaziantep, Turkey, our staff worked with the ACU to screen activity proposals they received from local and provincial councils and determine their feasibility. Embedded provincial staff in Syria worked to build the capacity of the local and provincial councils to develop robust activity proposals, while providing quality control and quality assurance.

Activity vetting. Once ES-North received activity proposals from local or provincial councils, the project carefully triangulated the information from a variety of sources, including our embedded provincial staff, trusted partners on the ground, our ACU counterparts, and other Syrian NGOs in Gaziantep such as the Syrian Economic Forum. We also submitted the principals of each LC for

vetting in USAID's partner vettings system portal, as well as Chemonics' own screening processes before fully committing to an activity.

START and USAID clearance. Each potential infrastructure rehabilitation activity was presented to the Syrian Transition Assistance Response Team (START) by the USAID Activity Manager to ensure close coordination among U.S. government agencies. After START approved ES-North's activities, they were presented to the USAID Contracting Officer's Representative for final clearance.

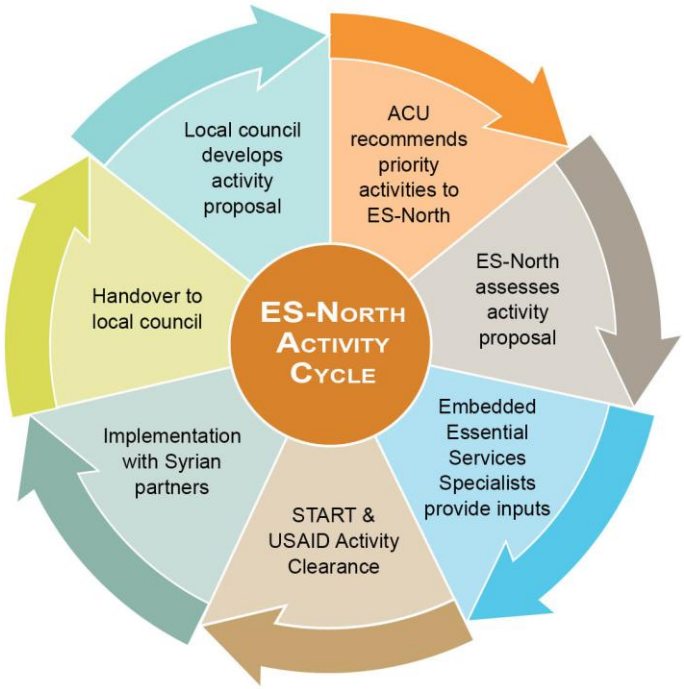


Figure 1. ES-North Activity Cycle

DEVELOPMENT HYPOTHESES

Below we discuss the major assumptions of the ES-North project. These hypotheses provided a framework for ES-North's activities in Syria.

SUSTAINABLE SERVICE DELIVERY COMBATS EXTREMISM

With strong communities, Syrians can discourage infiltration by ISIS and other foreign jihadist elements and pave the way for moderate governance organizations. Infrastructure repair requires significant consensus building, research into the design and feasibility of the proposed repairs, and equipment installation capability. ES-North's assistance strengthened communities by restoring economic viability and encouraging families to stay in their villages and towns.

Sold to the Highest Bidder

Both ISIS and Jabhat al Nusra, labeled as foreign terrorist organizations by the U.S. Department of State, have seized control of oil production in Syria. These groups sustain their terrorist operations in Syria by selling crude oil to the highest bidder, often the Assad regime, causing opposition groups to accuse them of collaboration with the government. They have also been known to smuggle oil into Turkey. The rudimentary oil refineries these groups are using are polluting the Euphrates River, causing significant air pollution, and creating health issues for Syrians.

Before the conflict, farms and agribusinesses in Syria relied on diesel-powered generators for irrigation and had little incentive to utilize renewable fuel sources due to substantial oil and gas subsidies provided by the government. Since the onset of the war, diesel fuel has become extremely expensive, poor in quality, and difficult to obtain. The donor community has been flooded with requests for new generators and. Community reliance upon diesel fuel donations is not sustainable and over time weakens communities that were once self-sufficient. Further, oil has proved to be a boon for the extremist groups like ISIS and Jabhat al Nusra, who have seized control of most of the oil-rich northern provinces of Ar-Raqqa, Deir ez-Zour, and Hasakeh. As these groups gain control of more territory, they finance their terrorist operations through revenue from oil sales, border tolls, extortion, and granary sales (see box).

To combat this problem, ES-North worked to reduce communities' dependence on diesel fuel by working with LCs to install solar-powered irrigation equipment where feasible. By using sustainable clean energy, ES-North reduced interruptions in irrigation and rejuvenated local economies while simultaneously building the LCs' credibility as service providers and viable governance alternatives to extremist groups such as ISIS and Jabhat al Nusra. Wherever feasible, ES-North not only restored irrigation, but also provided communities with equipment that could provide purified drinking water using solar power. Our hypothesis is that a community with safe drinking water is much more likely to be economically productive than one without clean water and is less likely to turn to extremist groups for the provision of services.

WATER SERVICES ACHIEVE SUSTAINABLE IMPACT

Water services are a priority. Water services are essential for agriculture and agribusiness, the economic engine of the target provinces of northern Syria. Irrigation and drinking water systems were already at risk in Syria prior to the start of the conflict. Since then the systems have severely suffered due to the loss of government funding and support, war-related damage, and shutdowns due to escalating fuel costs, the loss of electric power, a lack of spare parts, and the loss of qualified engineers and technicians. As such, ES-North's primary intervention was full activity design, implementation, and evaluation of economically essential water infrastructure. At the onset of the program, ES-North, in consultation with USAID and other partners, conducted an essential services needs assessment of northern Syria and determined that the water and agricultural sectors were high priority and best-suited for an ES-North intervention. Although many other donors are focusing on water, santitation, and hygiene activities, ES-North was unique in its focus on intermediate and long-term solutions to water problems. Syrian local and provincial councils recognized that receiving the needed physical and technical resources to implement restoration activities was critical to rejuvenating their largely agricultural economy. Now that farms are productively operating again and jobs have been restored, the income earned is being reinvested back into the communities and producing even greater economic benefit.

Water flows from solar powered irrigation pumps installed by the ES-North project in Syrian apple orchards.

ES-NORTH'S PILOT ACTIVITIES IN SYRIA

ES-North implemented four pilot activities across northern Syria. All activities focused on restoring economically essential water infrastructure in agricultural communities, providing a much-needed economic boost to communities where productivity has been lost during the conflict. Below are brief descriptions of ES-North's four pilot activities. Full descriptions of ES-North's pilot activities, including lessons learned at the activity level, are detailed in separate activity reports.

AL MAYADIN IRRIGATION PUMP STATION REHABILITATION ACTIVITY

The continuing conflict within Syria has negatively impacted the availability of mechanical repair parts and diesel fuel, resulting in a decrease of irrigation water that is critical to Syria's agricultural economy. In particular, Al Mayadin Township in Deir Ez Zur Province was significantly impacted due to irrigation water shortages. The largest irrigationfacility, the Al Mayadin Irrigation Water Pumping Station, had three large diesel engines that were unserviceable and appeared to be unrepairable due to extreme wear and tear. At the onset of ES-North's intervention, the pumping station was operating at approximately 55 to 65 percent of capacity. As a result, much of the community's 800 hectares of traditionally fertile cropland was underutilized or nonproductive.

The Al Mayadin LC proposed that ES-North help replace the three inoperable diesel engines with new electrical motors, along with the provision of associated replacement water pumps and an upgrade of the electric power source with a new, small electric transformer station. ES-North intended to provide: project development and design; procurement of equipment, machinery, construction materials, tools, equipment, and labor; and monitoring and evaluation of the work. The Al Mayadin Irrigation Pump Station Rehabilitation Activity would also increase the safety and protection for local people and operators, and would provide the community with a potable water station.

Syrian subcontractors raise the steel beams of the pumping station.

The rehabilitation work was divided into two phases. During Phase I, a local subcontractor completed the initial site preparation work, including site cleanup, grading, and leveling; installation of concrete foundations; installation of new metal roofing and associated steel works in the pump station; and installation of fencing around the station. Phase I was completed using locally available materials in Syria. Phase II would have included the procurement, shipping, and installation of the electric water pumps and all other necessary components. In addition, ES-North planned to update the lighting system inside the pump station and generator building. While the project was able to fully complete Phase I of the activity, the tenuous security environment did not allow the project to complete Phase II.

ISIS had been present in Deir ez-Zour province since the onset of ES-North activities but, in June 2014, ISIS militants conducted major incursions in Ar Raqqa and Deir ez Zour provinces. Much of the violence occurred near Al Mayadin. Moderate local and provincial councils in the surrounding areas were dissolved by ISIS and ES-North's local embedded staff and LC counterparts were hesitant to communicate with ES-North leadership in Gaziantep for fear of being recognized as associating with the U.S. government. On June 24, 2014, USAID directed ES-North to expedite the completion of Phase I and canceled Phase II of the activity.

JABAAR DOMESTIC AND IRRIGATION WATER PUMPING STATION REPAIR ACTIVITY

In late 2013, the Jabaar LC submitted a proposal to the ACU for critical assistance to restore irrigation capacity to ensure continuity of food and economic resources for the community. ES-North worked closely with the Council to design and plan the rehabilitation of a water pump station located on Lake Assad. This man-made lake, created by damming the Euphrates River, is the largest lake in Syria and provides storage for irrigation water and hydropower electric generation. The Jabaar Station's pumps and electronic controls were housed in a small structure on a man-made peninsula, but due to the conflict, had fallen into a state of disrepair. At the time of ES-North's intervention, the irrigation pumping station in Jabaar, built in 2001, was only working at a fraction of its original capacity. As a result, much of the community's traditionally fertile cropland could not be used and a significant amount of farming potential income has been lost. ES-North's objective was to restore the water pumping station in order to increase the community's irrigation capacity and drinking water supplies, improve the economic productivity of area farms and small businesses, and limit the ongoing flight of the population due to lack of economically essential services.

Workers repair a water pump in the Jabaar Pumping Station on Lake Assad.

Jabaar Pump Station after the repairs conducted by ES-North. The site now has operational water pumps to deliver irrigation water to the surrounding communities. ES-North also upgraded the safety features at the site.

Like the Al Mayadin activity, the ES-North's intervention in Jabaar was divided into two phases: Phase I, which included design and site preparation using locally available materials, and Phase II, which included installing new, more efficient motors at the pump station and the installation of water purification units to give the community access to clean drinking and domestic water.

Phase I included cleanup at the Jabaar pump station site, repairs to the existing structures and access road, repainting the interior and exterior of the pump station, and the installation of new interior lights, exhaust fans, and a fire extinguisher system. ES-North also repaired the roof of the pump station and conducted emergency repairs on two of the existing vertical turbine motors and pumps. To bring the pump station up to international standards of safety, ES-North installed safety and security fencing around the pump station and

safety signage. To mitigate erosion of the shoreline around the pump station, ES-North also replaced rock embankment, known as riprap, at the site.

As was the case in Al Mayadin, due to increasing control of ISIS in the Ar Raqqa and Deir ez Zour regions, USAID ordered ES-North to cease work on the Jabaar pump station. Due to the security situation, Phase II of the activity was canceled, including the design and procurement of the new pumps. However, despite the deteriorating situation in Ar Raqqa province, Phase I of the work was successfully completed, including the repair of the existing water pumps in Jabaar, which will allow the surrounding community to have access to irrigation water from Lake Assad.

The two pumps and motors that were repaired by ES-North are now working efficiently. The severe drought in the region has caused the water level in the lake to decrease to a record low, which hinders the operation of the pump station. Although ES-North was not permitted to conduct further activities in Jabaar to mitigate this problem, the project connected the Jabaar LC with another international donor, the Norwegian Refugee Council, which has continued to support the local community with solutions for the impact of the drought in the area.

HAJIN IRRIGATION WATER PUMPING STATION ACTIVITY

Worker installs pipes inside the new pumping station.

The rural area surrounding Hajin, located in Deir ez Zour province near the Iraqi border, is a fertile and historically prosperous farming area. There are many agribusiness institutions in the area, but they have suffered from decreased agricultural production as a result of the armed conflict. The main irrigation water station in Hajin had fallen into a state of disrepair with broken diesel motors and pumps due in part to the difficulty and expense of obtaining spare parts and feul to run the irrigation systems. As a result, the Hajin LC requested help from ES-North to replace these old diesel-powered pump systems with electrical pump systems and establish an electricity conversion center (transformer).

The objective of ES-North's intervention was to rehabilitate the irrigation system so that an area of 3,000 hectares of agriculture land could be properly irrigated. ES-North planned to rehabilitate the pump station by replacing the existing 10 old diesel motors and pumps with nine new electrical motors and centrifugal water pumps, as well as replacing all the required electrical and mechanical equipment. The rehabilitation work was divided into two phases: Phase I, which included the dismantling of the old diesel pumps, preparing the site for the installation of the new electric pumps, constructing a structure to house the transformer and generator, and installing fencing around the new buildings to protect the new equipment. Phase II included detailed engineering design, procurement, shipping, and installation of the new pumps and motors, mechanical componentry, generator, transformer, and spare parts.

Because of the rapid deterioration of the security situation in Deir ez Zour, USAID canceled Phase II of the activity in Hajin. As part of Phase I, ES-North removed the existing irrigation system from the pump station in Hajin. After the project was told to cancel the installation of the new equipment in Phase II, the project was in a difficult situation: the old pumps were completely dismantled and the project had a directive not to install new pumps, essentially leaving the community without access to irrigation services.

Syrian children enjoying running water in Hajin.

Because ES-North had stored the old pumps and piping, USAID approved the project recommendation to repair and rebuild the six best existing engines and pumps and to reinstall them at the pump station. Repairing the damaged pumps allowed the station to pump more efficiently, providing increased irrigation flow to the surrounding agricultural community. Because ES-North had cleaned and deepened the canal surrounding the pump station, the repaired engines now provide a better supply of feed water to the pumps supplying water to the villages surrounding Hajin.

BDAMA SOLAR POWER ORCHARD IRRIGATION ACTIVITY

Solar panels installed by ES-North to irrigate Bdama's apple orchards.

The Bdama area, located in northwestern Idlib province, has been significantly affected by the revolution and resulting war in Syria. Its once vibrant economy has been severely disrupted by the unreliable and expensive supply of fuel and farming supplies which are critical to the area's agricultural based economy. Due to the tremendous escalation of fuel prices, its unpredictable availability, and poor quality when available, the Bdama apple and peach orchards were not irrigated during the 2012 and 2013 growing seasons. As a result, the community sold no crops and generated no revenue.

ES-North's activity in Bdama has enabled approximately 120 orchards to be irrigated using solar technology. By installing submersible irrigation pumps powered by solar panels, ES-North helped Syrian apple orchards become economically viable again, producing their first harvest since 2012. Twelve solar power generation sets were installed, which are capable of powering eight to 14 orchards each. Powering the submersible pumps used for orchard irrigation with solar energy is an ideal solution because the existing wells in the orchards are relatively shallow and the peak demand period for power is during the spring and summer, when sunlight is most available. ES-North also assisted local farmers and orchard owners to establish water users associations (WUAs) to govern usage of the irrigation wells and operation and maintenance of the solar-powered irrigation equipment.

Water flowing from the solar powered water pumps procured and installed by ES-North.

As a result of ES-North's intervention, Syrian apple farmers were able to get back to work, create jobs in their community, and establish a system of governance for shared resources through the WUAs. This sustainable and easily replicable activity demonstrates the viability of alternative energy projects and provides hope for other Syrian communities that they too can revitalize their agricultural based economies. The effects of simple solar-powered activities will be long lasting, serving the Bdama community for 15 years or more and reducing dependency on diesel generators.

A Syrian farmer loads his new apple harvest into a storage warehouse. The 2014 harvest was the first economically productive harvest in Bdama since the onset of the conflict

ES-North's activity in Bdama is a model for replication by other donor organizations on providing assistance without creating a culture of donor reliance. ES-North's work in Bdama was recognized for its sustainability and ES-North facilitated knowledge transfer from our project to the Syria-based NGO GOAL, which is working with the United Nations' Food and Agricultural Organization to expand the legacy of USAID's leadership in restoring irrigation water in Idlib.

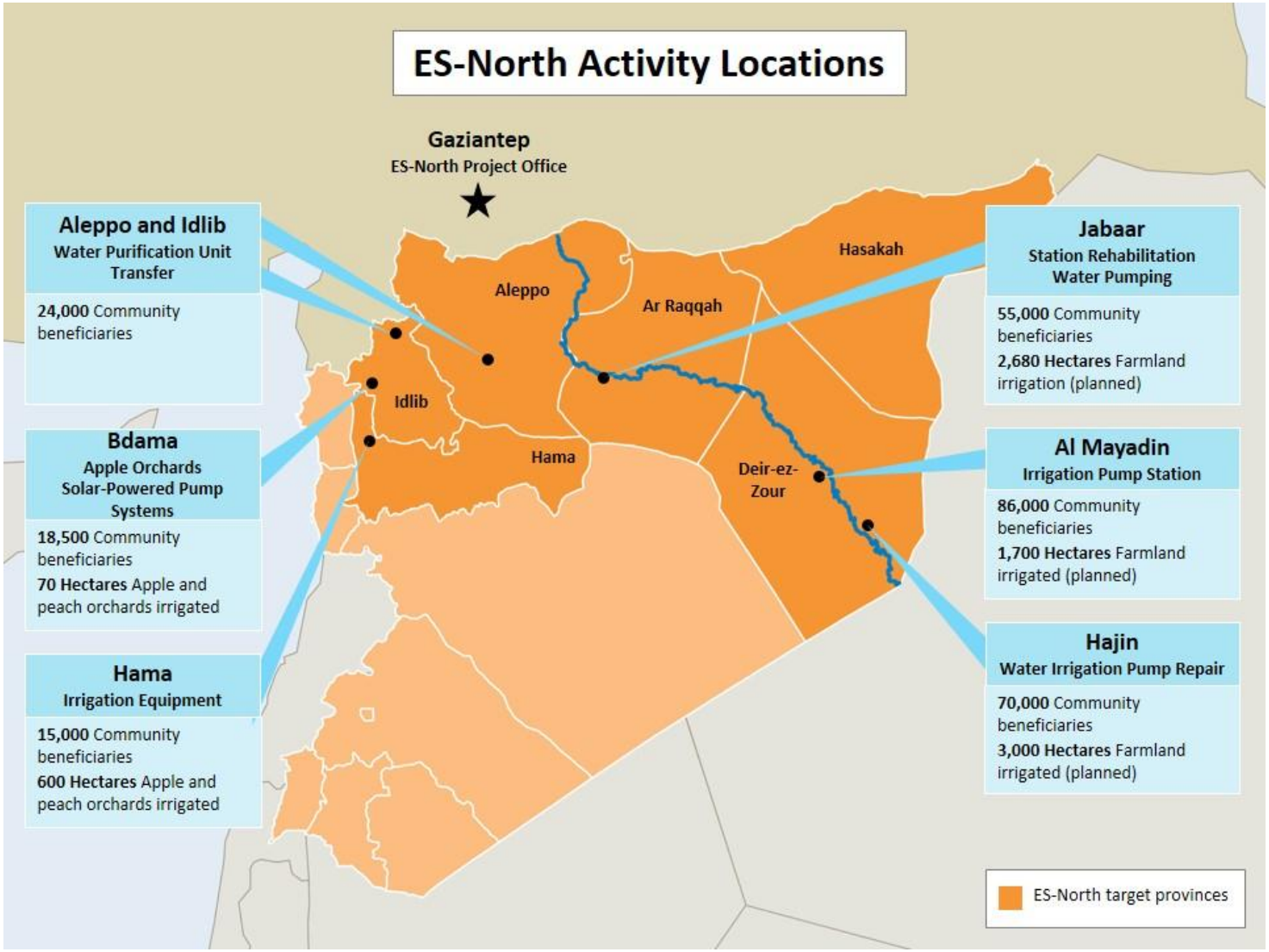
TRANSFERING UNUSED EQUIPMENT TO HAMA, ALEPPO, AND IDLIB

As detailed above, at the direction of USAID, ES-North suspended Phase II of its activities in Al Mayadin, Jabaar, and Hajin due to the incursion of ISIS militants in Ar Raqqah and Deir ez Zour provinces. When USAID notified ES-North of the U.S. government's suspension of activities in those provinces, some of the technical equipment, including electric pumps, motors, and water purification units, had already been procured by the project. ES-North rapidly identified alternate recipients in Syria for this equipment, as it could no longer be used in Ar Raqqah and Deir ez Zour. After working closely with the ACU to field proposals from various organizations, ES-North determined that there were several communities in Hama, Aleppo, and Idlib that could benefit from the existing equipment. At the time of ES-North implementation, these provinces were mostly under the control of the moderate FSA, with little ISIS headway in these areas.

With the help of the ACU, ES-North identified the communities surrounding the Alhawaiz irrigation pump station in Hama province as the best recipients of the electric irrigation pumps and motors from the Al Mayadin activity. Further, the Syrian Interim Government's Ministry of Water, Agriculture, and Infrastructure committed to receiving and maintaining the equipment in these communities by employing two mechanical engineers and one electrical engineer to install the equipment.

ES-North coordinated with the ACU to provide communities in Aleppo and Idlib with six solar-powered water purification systems, which will provide potable water to support economic sustainability in the immediate area. The project worked closely with the Aleppo and Idlib provincial councils, who will manage the operation and maintenance of the purification units. ES-North provided training in Gaziantep for two representatives from each community to install, use, and maintain the units, and also provided copies of the operating manual and specifications documents in both English and Arabic.

Figure 1: ES-North Activity Map

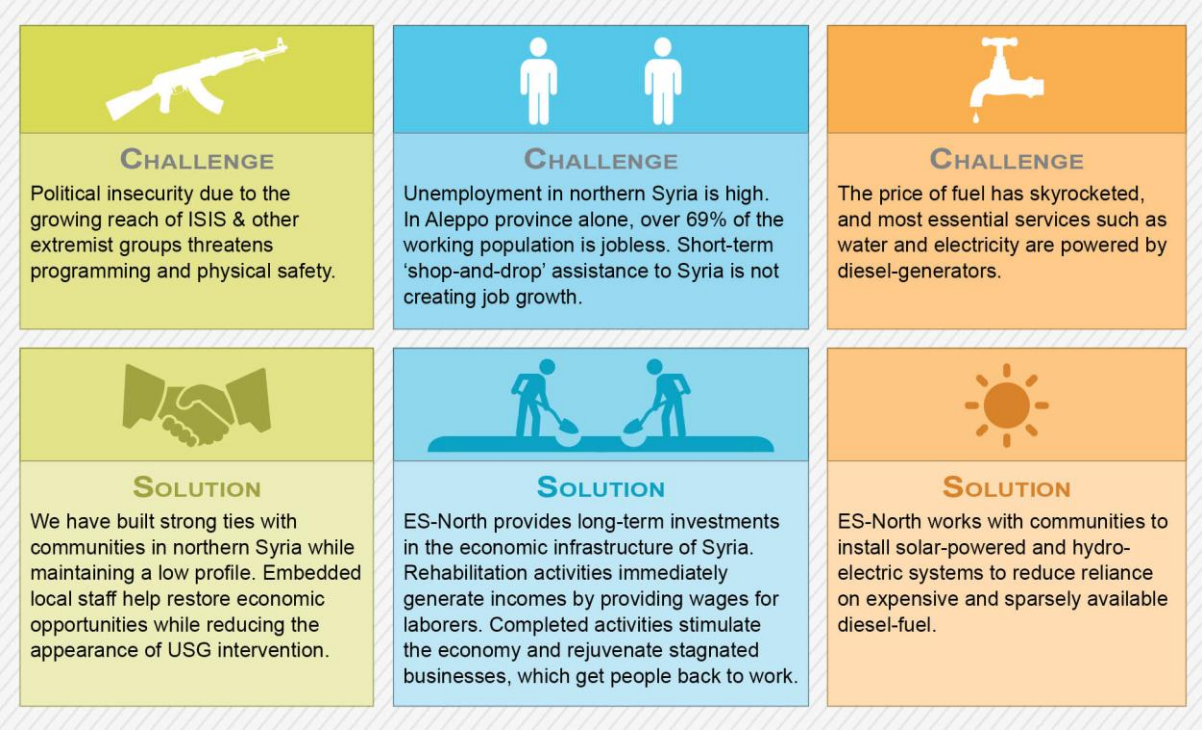


RECOMMENDATIONS AND LESSONS LEARNED

One of the goals of the ES-North was to document lessons learned from implementing an essential services repair and rehabilitation project in Syria. The project has produced recommendations for future programming in Syria, from the efficacy of counterparts to the value of remote management.

The political and security situation in Syria is constantly changing and growing more dangerous each day. Prior to selecting an activity to implement, any project working in Syria must closely evaluate the security situation and continue to monitor it throughout implementation. For example, in ISIS-controlled areas, any association with U.S.-funded initiatives can put project staff, LC partners, and entire communities at risk. Chemonics recommends that future projects select activities in locations where opposition forces are clearly in control and there is a reasonable amount of political stability. However, as a best practice we recommend selecting and vetting "backup" activities in case initial activities become too risky to implement.

Figure 2: ES-North Challenges and Solutions



ESTABLISH ROBUST COMMUNITY BUY-IN FOR ACTIVITIES

Activities should serve as a bridge to LCs. ES-North was originally envisioned as bridge to a longer-term procurement vehicle, specifically the multi-donor Syria Recovery Trust Fund (SRTF). We found that due to the long start-up period of the SRTF, ES-North in practice served as a bridge to LCs inside Syria. As LCs developed their capacity to provide essential services to their communities, ES-North supported them by providing technical assistance in essential service activity design, repair, and rehabilitation, all while training them on the care and stewardship of these services and bolstering their credibility with their communities and the Syrian population at large.

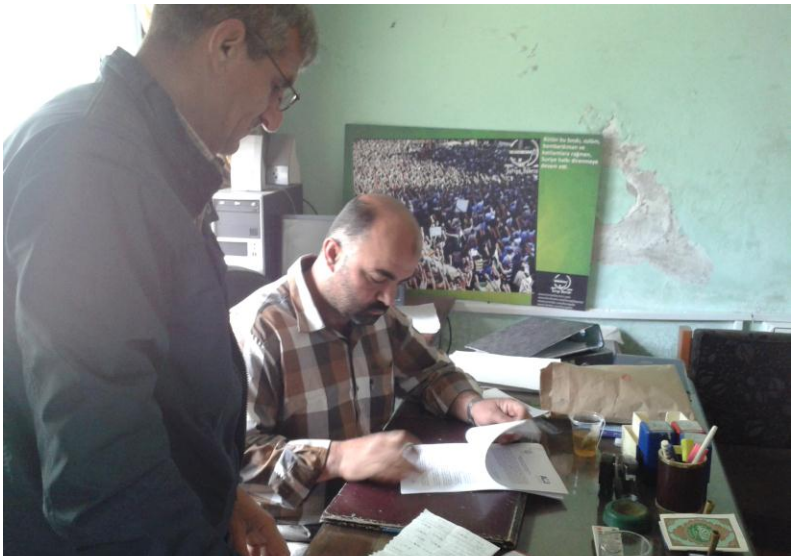
Community Contributions from the

Community contributions from the Bdama LC and local orchard owners were vital to the success of the activity. Examples of these contributions include:

- Escorting equipment shipments from the Turkish border to Bdama
- Contributing the LC's truck to transport shipments from the border
- Assisting ES-North in educating the community on activity benefits
- Conducting trenching work in all clusters to install irrigation pipes
- Providing a warehouse to store project materials free of charge
- Encouraging orchard owners to join the water user associations
- Providing information about the economic importance of agriculture in the greater Bdama community.
- Allowing project staff to use LC office space

Focus on demand-driven, community-centered solutions. ES-North ensured that LCs and communities were involved in project activities from start to finish. We worked with LCs to develop activity proposals and budgets, delegate tasks for implementation, and share responsibilities. Local buy-in is essential for maintaining the positive effects of rehabilitated infrastructure. As the future stewards of essential services, LC involvement early and often is key to ensuring that the infrastructure is maintained after the departure of donor assistance.

ES-North's activities were community-driven, and local and provincial councils have proven to be the most effective partner in communicating their needs and priorities. In opposition-held areas, local and provincial councils have filled the void left by the Assad regime and become the de facto leaders of the communities they represent. As emerging governance bodies, local and provincial councils must be able to reliably provide essential services, especially if they are to be perceived as legitimate and capable of serving their citizens. ES-North programming centered on the specific needs of communities. By identifying viable solutions to water infrastructure issues that have plagued commercial activity, the project demonstrated a real commitment to the long-term economic recovery of these communities. With the help of our embedded provincial engineering staff, ES-North continuously



Bdama LC members sign MOU with ES-North.

engaged with the communities to create long-term solutions for essential service delivery. ES-North avoided the pitfalls of a "shop-and-drop" approach, where goods or supplies are quickly transported across the border to a beneficiary with little followup for end-users. This approach is unsustainable, creates a culture of dependency, and puts assistance at risk of being intercepted by extremists like ISIS or Jabhat al Nusra. The water infrastructure systems rehabilitated by ES-North will have a longer lasting impact than the simple delivery of goods or supplies because they are owned and operated by the community.

Develop local ownership and community outreach. ES-North designed and implemented activities in partnership with local and provincial councils so that activities were locally generated and owned from the start. As the eventual stewards of essential services infrastructure, local and provincial councils should be active in developing activity concepts, providing timely and accurate data, and contributing to activity implementation by providing community support and assistance with monitoring and evaluation. To demonstrate commitment, the project worked with local and provincial councils to develop and sign memoranda of understanding (MOUs) for each activity which clearly delineated responsibilities and expectations.

Partnerships with LCs on restoring essential services built their credibility as governing organizations. In our experience implementing ES-North and other projects in conflict environments, Chemonics has learned that community perceptions are crucial for building the legitimacy of local governments. Projects should work closely with local council counterparts in developing a strategic messaging strategy to communities. This strategic messaging campaign must be customized according to the political and security environment in each community to develop buy-in from the beginning and avoid putting project partners and stakeholders at risk. In areas where the security situation allows, "unveiling" events of completed activities should be planned and implemented by the ACU and local and provincial councils with the support of USAID to bolster the credibility of these local governance structures with citizens.

Members of a newly formed WUA meet in the Bdama orchards.

Explore partnerships with alternative governing bodies, such as WUAs. In addition to working in partnership with existing entities such as local and provincial councils on municipal services delivery activities, ES-North introduced WUAs as viable, potentially strong partners for service delivery. For example, ES-North's Bdama apple orchard solar power activity has enabled approximately 120 orchards to be irrigated by replacing diesel-fueled irrigation pumps, which have been rendered unusable due to the fuel crisis in Syria, with solar-powered submersible pumps. This activity was based on the idea of community engagement and involvement, and worked not only to restore an economically essential service, but also promoted collective community improvement. Orchard owners were not targeted individually. Instead, ES-North

People Demand Change

WUAs in the Bdama apple orchards were established through the help of ES-North's subcontractor, People Demand Change (PDC). PDC helped develop the by-laws for each WUA. Every WUA member agreed to the by-laws which included daily and weekly water use schedules, an annual fee to cover future maintenance costs, and the election of the WUA president and treasurer.

worked to engage "clusters" of orchard owners to maximize impact and mobilize the farming community. Managing an activity with a strong communal component required a well-researched, practical, flexible, written agreement by the orchard owners to clarify and establish the irrigation system management process, to set and follow irrigation schedules, and to settle disputes. In close collaboration with the project's subcontractor, People Demand Change (see text box), ES-North introduced the concept of a WUA to govern the usage of the solar-powered irrigation equipment among the various farmers. Syrian farmers were willing to form WUAs to share the responsibility of maintaining and operating the solar power irrigation systems, while also sharing the benefits of restored irrigation in their farmland. The WUAs have helped to resolve two disputes between members and have been collecting maintenance fees from farmers to be saved for future expenses.

CLEAN ENERGY ACTIVITIES ARE EASILY REPLICABLE

The success of ES-North's activity in Bdama demonstrates the viability of alternative energy projects in Syria. This is especially true for projects operating from Turkey. In recent years, Turkey has pioneered renewable energy-related technologies and projects operating from Gaziantep have easy access to the Turkish supply chain of quality, inexpensive solar power equipment. Solar panels also require little maintenance by end-users and beneficiaries and have a relatively short installation time.

ES-North staff stand next to completed solar panels for the Bdama orchard irrigation system.

Utilizing solar panels is a sustainable alternative to the procurement, transfer, and installation of diesel-fueled power generators by donors, which require local beneficiaries to use expensive, increasingly scarce fuel for electric power. Solar energy activities reduce the burden for Syrian communities by breaking the cycle of dependency and allowing communities to generate power, for crop irrigation or otherwise, on their own.

UTILIZE EXISTING SYRIAN TALENT

Syrian subcontractors. Through ES-North, Chemonics learned that the capacity and technical skill of Syrian and Turkish engineering and construction firms is relatively high. As a result, the

project executed a number of subcontracts and purchase orders with local firms to conduct rehabilitation activities and to provide design plans or bills of materials for anticipated activities.

Creating jobs to restore economic vibrancy. Many of the materials for rehabilitating water systems must be supplied from Turkey because they are not available inside Syria. However, to the extent possible, the use of Syrian contractors is preferred for site preparation and installation because it directly supports the local economy with demand for materials, services and jobs.

ALLOW SUFFICIENT TIME FOR PROJECT STARTUP AND ACTIVITY DESIGN

ES-North's swift, three-month startup period in Gaziantep, Turkey, was a major factor in the project's success and allowed project leadership to quickly begin activity design and implementation. Despite the challenging operational environment, Chemonics recommends establishing a project office in Gaziantep, Turkey. Only 45 minutes from the Syrian border, Gaziantep is effective for reaching the communities in northern Syria. The ACU and most international donors are also headquartered in Gaziantep, allowing for easy coordination and relationship management. Gaziantep is also conveniently located between the four legal border crossings into Syria.

A Gaziantep-based office also provides the project access to the Turkish supply chain, which allowed ES-North to easily procure and transport equipment. The area is a regional manufacturing hub and high quality Turkish-made products such as solar panels and water pumps are readily available. Further, because much of the equipment ES-North procured was fully manufactured in Turkey, the equipment was not subject to the U.S. trade embargoes against Syria.

STARTING UP IN TURKEY IS CHALLENGING AND TIME-CONSUMING

During startup, ES-North greatly benefitted from the presence of the Office of Transition Initiatives (OTI)-funded Syria Regional Program (SRP), also implemented by Chemonics International. SRP had been operating in Gaziantep for seven months when ES-North was awarded and provided operational recommendations to ES-North for registration and hiring local staff, as well listings for qualified local certified public accounting (CPA) and law firms. Even with the advantage of an existing project in-country, ES-North still needed a full three-month startup period to fully operationalize, due in large part to the bureaucratic and administratively burdensome Turkish legal and regulatory environment.

Registration in Turkey is of critical importance. The registration process in Turkey is complex, time-consuming and affects all aspects of start-up. Chemonics is currently registered as a limited liability company (LLC) in Turkey. After internal and external legal and financial review of the various registration options available (LLC, branch office, Turkish joint stock company, liaison office, or NGO), LLC registration was chosen as the best option to serve our project's needs. LLC registration offers implementers the greatest liability protection and the shareholders of an LLC can be an individual or a company. Unlike shareholders for branch offices, shareholders for an LLC are not required to be Turkish citizens, residents, or have a legal presence in Turkey.

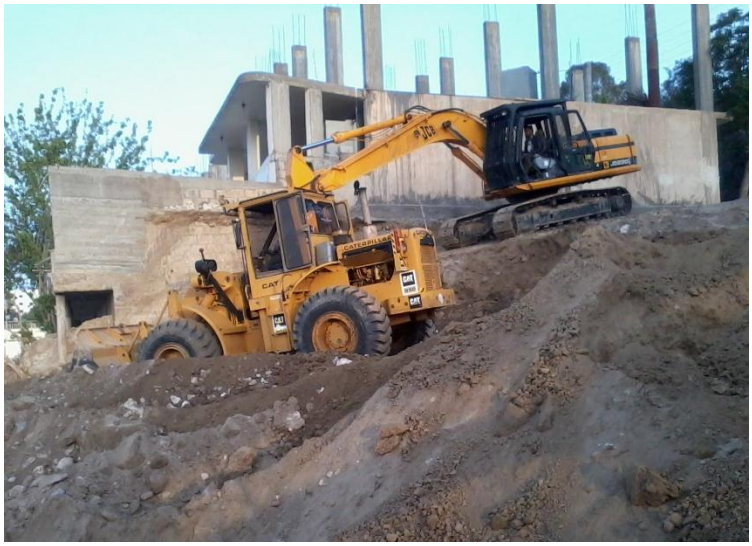
The project chose not to register as an NGO in Turkey because the registration process is more difficult and the post-registration requirements are more burdensome for NGOs than corporations and . Further, NGOs are subject to scrutiny and oversight by the Turkish Ministry of Internal Affairs.

CPAs are needed for registration. In order to comply with complex Turkish requirements, future projects should hire a CPA firm through a subcontract. The CPA firm will maintain all official company records, including registration, shareholder decisions, and official accounting records.

Hiring mandates. Turkish labor law requires that businesses hire five Turkish nationals for every expatriate on the company's payroll. While this requirement can be burdensome, hiring a robust team of Turkish operations staff is necessary to implement programs in Turkey. If a project strategically hires expatriate staff and qualified Turkish engineering professionals to fill some technical positions, the remaining operations and support positions such as translators, office managers, accountants, and communications staff can meet the five-to-one ratio of Turkish nationals to expatriates.

REHABILITATION AND RESTORATION ACTIVITIES REQUIRE A ROBUST DESIGN PHASE

Even with a very rapid, three-month startup, it takes approximately three additional months for rehabilitation activities to break ground. This is due to several factors, which are outlined below.



Heavy machinery is used to prepare the rehabilitation site in Al Mayadin.

LC capacity impedes activity selection. Coordination with the ACU is critical to ensure that activities are not replicated by other donors and that assistance activities are not over concentrated in certain communities. ES-North established a process to identify potential activities by working with the ACU to compile a list of potential activities suggested by the LCs. However, this list was not sufficient to begin work on new activities. Typically, requests from the LCs did not have enough information to be adequately evaluated, prioritized, and planned. As a result, each activity required significant review and input from ES-North resources in order to be fully developed and for implementation to begin.

Rehabilitation and repair activities require a design and site preparation phase. Even with small-scale infrastructure, the complexity of rehabilitation and repair activities is deeply technical and complex. Activities require a robust design phase, sometimes lasting several months, before ground can be broken. Further, infrastructure activities also require extensive site preparation before intensive rehabilitation and repair activities can begin. This is especially true in contexts such as Syria, where existing sites are likely to have been damaged or left to fall into

disrepair due to the conflict. To mitigate these factors, Chemonics recommends that any follow-on or new project in Syria build a robust design-phase into any infrastructure repair and rehabilitation program. Accounting for a design phase will set expectations with USAID stakeholders and with local counterparts. Projects should also identify and implement interim "quick-win" activities that can be completed in a shorter time frame. These activities can serve as an interim solution to essential service issues as the project works on the design of longer-term solutions.

Workers prepare a construction site in Al Mayadin.

STAFFING IS ESSENTIAL TO PROJECT SUCCESS

A robust staffing structure in the field is essential to the long-term success of the project. Although the ES-North program had only two long-term expatriate personnel, the project supplemented those positions with various short-term experts for both technical and operational assignments. While this approach was successful for ES-North, Chemonics recommends creating additional permanent, field-based positions to support the long-term success of the project. The additional long-term support will reduce travel costs associated with short-term technical assistance and the large management burden associated with complex infrastructure repair and rehabilitation within an extremely insecure region under U.S. government sanctions. Below we describe our recommendations for staffing at the expatriate and local levels for essential services restoration work in Syria.

Procurement and export compliance regulations are too complex to rely on locally-hired staff. The original ES-North staffing plan included local (Turkish) procurement and subcontracts specialists. Upon implementation, ES-North was not able to identify Turkish citizens with USAID procurement or subcontracts experience because there have been few USAID projects in the area. The project hired specialists and supported them with training by short-term experts from the Chemonics home office, but the procurement and export compliance regulations for Syria are complex and require more assistance than originally planned in order to maintain standards of compliance.

Due to the large number of subcontracts and procurements expected from an infrastructure repair project, Chemonics strongly recommends dedicating expatriate effort to subcontracts and procurement. This position is especially critical due to the current U.S government sanctions against Syria. In the early stages of the ES-North project, Chemonics identified compliance with the U.S. Department of Commerce and the U.S. Department of the Treasury's export controls as one of the highest risks for project implementation inside Syria. Through ES-North and Chemonics' prior experience implementing the OTI-funded SRP, we have learned that dedicated resources are needed to remain in full compliance with U.S. government export controls.

ES-North embedded staff works on the installation of pipe manifolds for irrigation equipment in Idlib province

Monitoring and evalution (M&E), oversight, and project management require embedded staff inside Syria. ES-North planned to send staff into Syria often to collect information on potential projects and monitor and evaluate activity implementation. Due in part to the danger of crossing the border, ES-North relied heavily on part-time staff working inside Syria to collect and validate information. Capacity within Syria is high and the project was able to identify technical engineering and project management professionals to perform some of the tasks originally expected of our Syrian staff based in Gaziantep. Because these staff members are from the communities where ES-North operates, their security profile is lower than sending our Gaziantep-based Syrian staff, who could be perceived as conspicuous or suspicious. This model of embedded staff has proven to be a cost-effective and relatively secure way to expand our reach in Syria without adding a multitude of full-time staff or additional field offices. These embedded staff significantly contributed to activity design and development, liaised with LCs and communities, and oversaw activity implementation on the ground.

Staff and partners must be thoroughly vetted. Chemonics worked closely with USAID to identify potential staff and activity partners based on referrals from trusted sources. All local partners, such as LCs, were fully vetted through USAID's partner vetting system, the U.S. Department of the Treasury's Office of Foreign Asset Control, visual compliance searches, local networks, research on family names, reference checks, and discussions with trusted Syrian organizations. As part of the reference checks, Chemonics relied on more than one source of information due to infighting and competition between various groups in Syria.

An expatriate security manager is ideal, but there are local alternatives. ES-North planned to have a full-time, expatriate security manager. It was extremely difficult to identify expatriates with the desired experience and ability to collect information inside Syria. The project relied on local sources, such as our embedded local staff inside Syria, to monitor the very fluid and complex security environment.

Collecting and reporting information is a higher priority than originally planned and requires additional resources. Limited physical access by expatriates, combined with biased, conflicting, and incomplete reporting, has made it difficult to know what is really happening within Syria. Overlapping areas of responsibility and competition over territory, support networks, and

political agendas compound this difficulty. Similarly, a lack of access further complicates efforts to gauge levels of public support for and perceptions of civil authorities, such as LCs, the Syrian Opposition Council, and ACU.

The ES-North staffing plan included a Syrian M&E specialist and a Turkish communications specialist. The scope of work requires a single, final report of less than 10 pages. However, in order to provide more timely information, ES-North adopted the practice of a weekly report. The operations manager and local communications specialist produced the weekly report which was edited by the home-office project management unit and submitted to USAID. In addition to the weekly reporting conducted by ES-North, more detailed information such as tracking movements of extremist groups and the trends in service delivery in Syria were often requested by USAID. With a small staff and limited funds, ES-North did not have the capacity to readily produce ad hoc reports.

Chemonics recommends that future projects in Syria subcontract with a research and analysis firm to collect information on the ground in northern Syria. While their primary focus would be tracking the trends in access and control of essential services across the northern provinces, a subcontractor like Navanti could establish a research platform that will help to improve USAID's support for local governance by providing in-depth information on perceptions regarding civil authorities across Syria. The research firm could rapidly collect, analyze, and validate information about what is happening on the ground, allowing the technical team to focus their efforts on the implementation of activities in Syria. The project should use the information gathered by to better understand current events and trends in an effort to design better programming strategies that can facilitate a durable and stable transition in Syria.

ELEVATE SECURITY AS A PROJECT FUNCTION

In an environment plagued by ongoing conflict, information and identifies cannot always be taken at face value. ES-North, worked continuously to build strong relationships with local counterparts at the community level and earn the trust of our counterparts and beneficiaries. Without this level of communications and trust, activity implementation would have been impossible.

Mitigating Communications Risks

ES-North was careful not to conduct check-ins for staff traveling in Syria in English. A call from an English speaker while traveling in Syria could easily attract the attention of anyone monitoring the mobile network. If an individual travels through a government or extremist-controlled checkpoint and receives a call from an English speaker, they are at risk for detention, kidnapping, or worse.

Branding and marking. The situation in Syria is extremely volatile, and any association with U.S.-funded initiatives can cause LCs, beneficiaries, project staff, and entire communities to be targeted by the regime or extremists. We recommend that USAID minimize or waive branding or marking requirements in Syria. Early in the implementation, ES-North requested and received a branding and marking waiver from USAID/Washington. Since then, ES-North worked closely with the ACU and communicated regularly with the USAID Activity Manager on branding and marking. The approved approach was to minimize references to USAID or the U.S. government and promote the ACU and local and provincial councils as activity implementers.

Trusted sources. In an environment plagued by ongoing conflict, information and identifies cannot always be taken at face value. ES-North built strong relationships with local counterparts at the community level and earn the trust of counterparts and beneficiaries. Triangulating information from various sources helped to ground-truth our approach and our partners. Project staff should always seek to contact unfamiliar individuals through an introduction from a mutually trusted source. This allows both parties to establish who they are and what they do without revealing too many details. Projects should encourage the use of separate, non-project email accounts for initial contacts as a best practice.

Satellite communications technology. When Gaziantep-based staff traveled into Syria, they were equipped with Thuraya satellite phones, but were aware that dual-SIM enabled satellite phones can automatically connect to local GSM networks that can be tracked by the regime. We took extreme precautions when using satellite communications technology and ensured that staff members were trained on using it safely. When traveling through ISIS or other extremist-controlled territory, we advised staff not to carry satellite phones, since carrying expensive equipment can be cause for suspicion or association with Western groups. Most Syrian staff members do not want to carry this type of equipment when traveling across the border. Internet connectivity in many areas in Syria is very limited, making real-time communications with counterparts and beneficiaries nearly impossible. To facilitate real-time communications with LCs and our embedded provincial staff, we discretely transported satellite Internet equipment across the border to the offices of the LCs. Our embedded staff members delivered and installed this equipment and facilitated communication.

IT Security Best Practices

- Set up closed IT systems that don't allow for guest access
- Create alternate email addresses (not project email accounts) to contact individuals in Syria
- Encrypt emails and chats that include sensitive information
- Hide files on computers or memory sticks that are taken into Syria
- Use code words in spoken communications to verify identity
- Avoid clicking links from unknown sources
- Do not use personal computers or phones to access project email

Social media. Social media websites like Facebook can sometimes be used to discretely facilitate brief communications between Gaziantep and activity locations in Syria. Internet connectivity in Syria is often only available in public spaces such as Internet cafes. To minimize their risk, local staff members traveling in Syria were advised not to open their project email accounts and instead check-in with the Gaziantep office through coded Facebook messages in Arabic.

CONCLUSION

With the completion of the 13-month implementation of four pilot activities in Syria, ES-North recommends the following:

1. Establish robust community buy-in through close collaboration with local and provincial councils to develop demand-driven, community-centered solutions to local problems.
2. Solar energy projects are relatively inexpensive and easily replicable.
3. Utilize existing Syrian talent by working with Syrian subcontractors to carry out the work, which has the added benefit of creating jobs for members of the local community.

4. Allow sufficient time for project start-up and activity design; the Turkish operational environment is bureaucratic and complex, and rehabilitation activities require extensive time for both design and site preparation.
5. Staffing is essential to project success, and dedicated resources are needed for procurement, monitoring and evaluation, and reporting; embedded staff from the areas where projects are active in Syria can provide oversight, project management, and real-time information on the security situation in Syria.
6. Elevate security to a project function to ensure the safety of staff and beneficiaries in a volatile operational environment.

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