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STRENGTHENING THE CAPACITY OF THE GHANA IRRIGATION DEVELOPMENT AUTHORITY TO DELIVER WATER AND TRAINING THAT IMPROVE SMALLHOLDER FARMERS' PRODUCTION

by Edward Uechi

The crushed stone walkway and manicured landscaping in front of the recently built dormitories provide a welcoming environment of aesthetic beauty after a long day's work on the farmland. Living quarters had been constructed for the farmers who would travel away from their own farming community to participate in training designed to understand and practice agricultural water management. The new training facility, which had been equipped with modern audio-visual equipment and typical desk-chairs used in a university, awaits farmers to engage in both theoretical and practical lessons to improve farming. The breathtaking view of the Dawhenya irrigation scheme from the training facility provides an overview of the main reservoir, the pump house, irrigated farmland, and numerous buildings that dot the area. The undeniable Massey Ferguson by its distinct red color sat large and idle in the near background. The Dawhenya irrigation scheme has a total irrigable area of 450 Hectares (1,112 Acres), of which 200 Hectares (494 Acres) have been developed for irrigation. It is located near Tema in Greater Accra region in Ghana.

The polished black marble erected at the side of the road near the dormitories provides a reminder of the foreign government that supported rehabilitation of the Dawhenya irrigation scheme. Support came from the Korea International Cooperation Agency.

Still much work needs to be implemented. The pipeline that feeds water into the intermediary, storage reservoir continues to leak. Puddles of water saturate the soil and grass

surrounding the pipe. At the start of the pipeline outside the pump house, an underground water holding area had some kind of yellowish substance floating on top. Monitoring for water quality and delivery continues to be done by hand and human observation. Basic equipment such as a ruler implanted in the reservoir provide a guide coupled with management assumptions to calculate storage quantity. With all 56 irrigation schemes spread across Ghana, such manual monitoring is more ad hoc that constrains data collection to be infrequent.

I had worked for two weeks in July 2016, under a Farmer to Farmer assignment funded by the U.S. Agency for International Development and facilitated by ACDI/VOCA, to support the Ghana Irrigation Development Authority (GIDA). As a government agency GIDA manages all irrigation schemes to distribute water for agricultural purposes. Primary beneficiaries of irrigated water are smallholder farmers – those who cultivate rice and vegetables on less than one Hectare (2.5 Acres). Larger agricultural producers are encouraged to use GIDA's irrigation schemes. International producers have established a local presence, creating partnerships with GIDA. Like many public sector institutions that find it increasingly constrained in financial resources, GIDA has been working to find cost-effective ways to construct and operate large-scale infrastructure. GIDA's strategy is to involve the private sector beyond short-term construction to provide long-term operations and management in a strong and productive public private partnership. Private companies and local associations will be authorized with a degree of autonomy. My role in all this was to train and assist GIDA employees, who make up specialists in agronomy, civil engineering, economics, gender, and sociology, on topics that will enable them to draft worthwhile and viable proposals to secure the necessary funds from various public and private partners and to monitor and evaluate all their activities to ensure that objectives have been achieved.

Inside GIDA's conference room where the worn drapery had been closed and the air-conditioning unit had run during the sessions, Ghanaian minds turned in thinking through all the possible costs that would be involved either directly or indirectly in implementing a specific project such as constructing a new canal, acquiring advanced equipment for laboratory testing, and training farmers on agricultural water management techniques. More than 15 people sat around the oblong conference table, sharing their thoughts for consensus and refinement. I interjected now and then to spur thinking forward with ideas that they may not have thought before. Projected onto the large flat-panel display monitor for everyone to see and follow were spreadsheets to capture the participants' contributions. I recorded participants' responses and edited statements for clarity and brevity. GIDA employees actively followed along by editing copies of the electronic files provided as templates for use on their computer laptops.

In addition to calculating project costs, participants analyzed and quantified possible benefits that would be received after completing the project. Revenues from water usage fees and harvest yield levels from farmers' production were estimated over several future years. In comparing alternative farm production methods, rain-fed production showed a negative net benefit and irrigated farming showed a positive net benefit. The difference showed more than $150,000. By a quick glance of the financial figures, GIDA employees saw clearly which production method was not productive.

The cost-benefit exercise included social equity impacts. Such issues, which would raise questions by prospective funders, were analyzed. Common impacts for large-scale infrastructure that participants discussed were the relocation of entire communities and compensation to residents for the disruptive move. GIDA employees are well aware of the consequences. As part of the planning and monitoring and evaluation team, two Ghanaian women whose educational

background is in the social sciences provide supporting but essential socio-economic studies.

With a national irrigation policy in cooperation with the Ministry of Food and Agriculture and GIDA's own strategic plan in effect, GIDA planning staff have direction on where to go and what goals to achieve. Guided by the high-level planning documents, GIDA employees discussed and analyzed the relationships between project activities and expected results in achievement of stated objectives. Most importantly, they defined specific performance indicators in a manner that can be communicated to project teams and that can be measured consistently and accurately over time. Standard indicators applicable to water supply, water delivery, and water quality were introduced. With my technical assistance, GIDA employees have begun the work to formalize their performance management program.

The Ghana Irrigation Development Authority (GIDA) has built a foundation to manage all 56 irrigation schemes spread across the country. Further improvements with an emphasis on standards based upon international practices can make that foundation stronger. A major challenge, however, that other public organizations face is the shortage of funds. Such a challenge can be overcome with a well-crafted proposal that persuasively and accurately lays out the case for irrigation. Past work to rehabilitate existing infrastructure and to construct new facilities shows that there is a willing investor. The movement toward partnering with private companies and local associations to manage and operate the irrigation schemes is not an uncommon approach. Similar to in other countries, GIDA is pursuing a way in which it can share the costs and risks among interested partners in public private partnerships that can efficiently deliver a service (water) to as many people as possible for beneficial use.

Equally important, local Ghanaians can find employment in the irrigation schemes. On my visit to Dawhenya, several people were busy drying the harvested rice on a raised platform

that was kept immaculate. With dark clouds on the horizon, they knew what to do to keep the harvest protected from the elements.

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