

RAISING AWARENESS ON THE POTENTIAL FOR IMPROVED FOOD SECURITY THROUGH INTEGRATION OF WASH AND MUS APPROACHES IN NIGER

EXECUTIVE SUMMARY

Approximately 70% of rural populations are underutilized resources that could be unlocked by access to additional water, based on the water multiple-use services (MUS) approach. The MUS is an alternative model for water service provision in developing countries that involves planning, financing and management of integrated water services for domestic and productive uses (drinking, sanitation, household, health, food security and livelihoods). Existing water service provision approaches focus on the supply of water for single use for example, drinking water or irrigation water leading to sustainability problems and conflicts arising from multiple uses. Capital investment in MUS is often greater but the long-term returns and benefits offer significant value to the communities and donors. The goal of the MUS approach is to introduce economically and technically viable water multiple-use services that enable poor rural households to sustainably and equitably improve access to water, health, hygiene, food security, and incomes.

The USAID West Africa, Water, Sanitation and Hygiene (USAID WA-WASH) Program supports intervention communities to improve hygiene and sanitation, to generate incomes and improve food security at the household level, and to access appropriate water services. This is achieved by integrating income generating activities to support WASH activities and contribute to improved health and environmental conservation. Appropriate, cost effective, adaptable, and transferable technologies were introduced during the implementation of the MUS activities. The activities included; (1) conducting a study to identify opportunities to improve food security; (2) demonstrating the low cost water technologies; (3) mobilizing community members to form market vegetable gardening groups; (4) introducing improved vegetable seeds and linking producers to input dealers; (5) training producers on improved gardening techniques; (6) monitoring and following-up to support the producers; and (7) raising awareness on integration of productive activities in WASH through the MUS approach.

The Program conducted a study in 44 intervention villages in the municipalities of Wacha, Guidimouni, Bande, and Gouna in the region of Zinder in Niger. The study identified potential food security activities for support through the MUS approach. Through a comparative analysis, activities with the greatest potential to increase incomes and improve the living conditions of the target communities were selected. The comparative analysis showed the presence of the following conditions: the high number of producers, productive soils, availability of water resources, and high levels of production which are important for the success of each of the selected activities. The potential food security activities identified in the study include market vegetable gardening, fish production and marketing, peanut oil extraction by women, rearing of small ruminants, extraction of potash/soda, fodder maize production, and Moringa production and processing.

Demonstration sessions were held to promote low-cost water technologies including the garden boreholes, the EMAS pump (from the name of the center where it was developed: Escuela Movil de Agua y Saneamiento (Mobile School of Water and Basic Sanitation in English), and the *Sawki Da Riba* (SDR) pump for the gardening activities. The demonstration sessions were held during general assemblies in 25 target villages. There were 849 participants in the demonstration sessions including 216 women (25%). As a result, 63 garden boreholes

were drilled in the intervention communities. Out of the total vegetable garden boreholes, 37 were privately owned, 26 were owned by women groups and schools as demonstration sites.

To further publicize the low-cost technologies promoted by the Program, five schools were identified for the establishment of demonstration school gardens under the guidance of teachers and agricultural extension agents in the target municipalities. Each school was supported with gardening tools, vegetable seeds, one garden borehole, and two SDR treadle pumps. The students and teachers were trained on vegetable gardening techniques including establishment and maintenance of nurseries, transplanting, tending, and harvesting. Similarly, an EMAS pump demonstration site was set up in the municipality of Wacha.

The Program mobilized the target communities to form gardening groups. As a result, six women's groups were formed. Each group was composed of 21 women, constituting a total of 126 women. The groups were encouraged and supported to establish market vegetable gardens and were trained on improved gardening techniques. The Program also provided the groups with gardening tools, garden boreholes and SDR treadle pumps. Further, the producers were linked to certified seed dealers in Zinder including Agrimex Zinder, Agri-Sahel, Prodex, and UCOMA (agricultural equipment manufacturing unit). A total of 67 producers from the 21 target villages visited the input shops in Zinder to learn about available improved seeds, their yield level as compared to traditional seeds and their prices. The producers also learned about seeding techniques through the use of simple implements such as the Canadian three-tooth seeders from UCOMA. The producers purchased the improved seeds and set up demonstration plots in collaboration with the input dealers in their respective villages to market the improved seeds to other producers.

The market vegetable gardeners were trained on improved gardening techniques such as nursery and seedbed preparation, seed selection, nursery sowing, irrigation, fertilizer application, transplanting, crop maintenance, crop rotation, crop protection, harvesting, use of the treadle pump, pest control (use of Neem tree solution and chilli), and environmental protection. The Program developed a support and monitoring system at two levels; at the village level, and the municipality level by agricultural agents. Finally, all the forty three intervention villages were sensitized on integration of the MUS approach to WASH activities through skits and drama by *Tarmamoua May Haske*, a theatre group that airs on local private radio stations. The theater group raised awareness on boreholes as sources of potable water and gardening purposes and the integration of women in productive activities.

This is an Executive Summary of a report dated February 2014. The full report is available (in English) upon request via our website. For more details about our program activities and other reports please visit <http://wawash.fiu.edu/>

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