



WATER SMART AGRICULTURE IN GHANA

Overview

Water Smart Agriculture (WaSA) was introduced to Ghana in 2016 as an approach to use water effectively and equitably to reduce climate hazards, such as dry spells, and enhance farmer resilience. WaSA is not a new concept in terms of techniques. It draws from proven approaches such as sustainable, conservation, and Climate Smart Agriculture. However, WaSA focuses attention on access to water for production, including increasing the soil's capacity to absorb and store moisture, rainwater harvesting and storage, wastewater re-use, and small-scale irrigation. In Ghana, smallholder women farmers face the crippling effects of climate change as well as inadequate access to land, water, productive assets, and extension services. WaSA's aim is to improve the capacity of (mostly women) farmers, to increase food production and be more food-and water-secure by adopting WaSA technologies and practices. Through capacity building efforts, WaSA has reached more than 13,000 smallholder farmers, of which 10,299 were women across 87 communities.



**31% decrease in
production costs
for WaSA farmers**

**WaSA practices
implemented on
at least 2500
hectares**



13,000+
Women reached



Figure 1. Woman watering the demonstration plot in Boko community, 2018.

Women in Agriculture

Women represent half of the sub-Saharan African workforce and a significant portion of agricultural labor, yet they have very limited access to land, water resources and agricultural education, inputs and extension services.

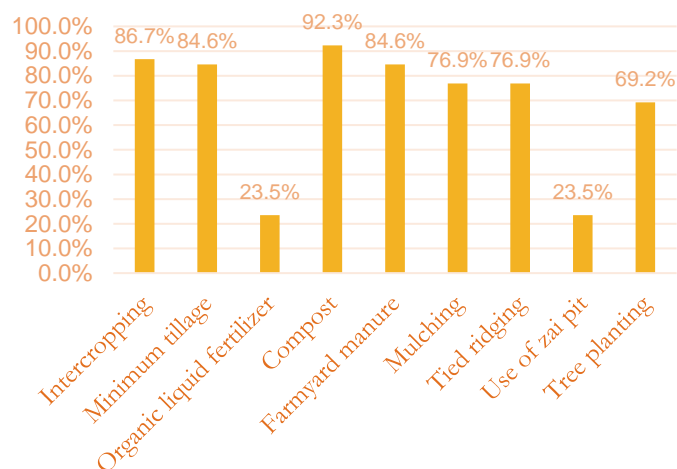
In Ghana, WaSA includes a specific focus on women farmers to increase their livelihood and food security in the context of water scarcity. By focusing on the needs of women, CARE Ghana helps increase access to land and seeds. Women farmers who incorporated WaSA practices have improved the soil health, soil moisture retention, and erosion control on their farms. The techniques adopted by WaSA farmers in Ghana,

such as minimum tillage and intercropping, resulted in a 31% decrease in production costs during the 2017 rainy season while increasing crop yields. The farmers earned more income from the increased yields and were able to provide their families with improved and diversified diets.

Women Producers

WaSA practices, including intercropping, composting, dry season gardening, use of animal droppings as fertilizer, and zero tillage, were adopted by 98% of women smallholder farmers who attended the trainings. The women's successful implementation of these new practices has led to increased crop yields on the same number of acres, while reducing the need for chemical fertilizers and supplemental irrigation during the rainy season. While many women noted that the new practices required extra time for things like making compost and digging zai pits, they also spent less time weeding due to the use of cover crops and intercropping. Overall, the women agreed that the various benefits gained from WaSA practices, including improved crop yields and increased incomes, outweigh any extra time requirements.

Adoption of WaSA Practices among 5,975 farmers, Garu-Tempane and Lambussie Districts, 2018



Women in the Community

Unique to WaSA are gender dialogue sessions at the community level that challenge attitudes and perceptions of gender roles by enabling men and women, including traditional leaders and landowners, to discuss existing norms and practices. Through these dialogues, the communities collectively agree on measures that could be taken to improve access to resources for marginalized groups, particularly women. WaSA also identified "Male Champions" through a training for men and boys to help promote gender equality. Due to the community discussions, most of the men in communities where WaSA has been implemented are now working to support their wives by sharing land, labor, and farm inputs. The attitudes of men towards women in these communities has improved significantly with increased understanding and respect for the valuable knowledge and contribution of women farmers. WaSA has received multiple reports from women who say that many men now recognize that improved conditions for women benefit the entire family.

Farmers at the Center of Learning

WaSA places farmers at the center of the learning process by strengthening formal and informal extension systems to better promote integrated soil and water management. CARE Ghana and its partners recognize that strengthening the capacity of existing networks and supplementing those systems with robust community-led extension and information sharing is essential to increase women's access to agricultural services.

Demonstration plots serve as an ideal learning environment where farmers can learn and test new techniques, without risking their livelihoods. In collaboration with the Savannah Agricultural Research Institutes, CARE Ghana has helped Community Based Extension Agents (CBEAs) and producer groups establish a total of 42 demonstration plots to date. CBEAs have also established 5 Farmer Field and Business Schools, where extension agents can reach multiple farmers at once rather than individual households, further scaling up the number of farmers reached by the WaSA program. Five clusters of Farmer Field and Business Schools were established in each of the two districts to afford farmers the opportunity to take part in inter-community learning visits to the centers.

Partnerships Beyond Fields

As of February 2020, CARE Ghana has facilitated trainings for 446 CBEAs and 12 government Agriculture Extension Officers on WaSA training modules. To facilitate farmers' uptake of WaSA practices, farmer education materials were designed, printed, laminated and distributed to the CBEAs to improve communication quality to farmers, specifically before and during the growing seasons. In addition, a number of Gender Champions have been trained to work within their communities to reinforce messages on gender and women's empowerment, WaSA, nutrition, and other topics. To sustain the services rendered by CBEAs to smallholder women farmers, all 446 CBEAs have formed a network and link to the various district departments of agriculture. This network offers CBEAs the opportunity to be recognized by the Department of Agriculture for further capacity building, support and monitoring. It also provides a platform for trained CBEAs to continuously interact, learn and offer support to each other in the absence of an external facilitator.



Figure 2. A female community Based Extension Agent disseminating information about WaSA practices to members of her VSLA group

Conclusion

Farmers in Ghana who successfully adopted WaSA practices have increased production yields and income, leading to increased food diversification and nutrition for their households. The success in Ghana highlights the potential for WaSA practices to support sustainable food systems and improving climate resiliency for small-scale women farmers, while simultaneously increasing incomes and dietary diversity for their families.

I am so grateful to have learned of [growing trees on zai pits] from CARE. It has helped me to grow moringa and vegetables on my land which was not so fertile. Now I am able to get some extra income to support my husband with household expenditures."

– Anammah Abugbil, 45 years, Tankpasi