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# Transforming Africa's Agriculture through Enhancing Commercialization of Agricultural Research Products

The case of Water Management Enabler Technology

By : FARA, TAAT, CDTO and Water Management Enabler Compact

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### **Forum for Agricultural Research in Africa (FARA)**

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## **About FARA**

The Forum for Agricultural Research in Africa (FARA) is the apex continental organisation responsible for coordinating and advocating for agricultural research-for-development. (AR4D). It serves as the entry point for agricultural research initiatives designed to have a continental reach or a sub-continental reach spanning more than one sub-region.

FARA serves as the technical arm of the African Union Commission (AUC) on matters concerning agricultural science, technology and innovation. FARA has provided a continental forum for stakeholders in AR4D to shape the vision and agenda for the sub-sector and to mobilise themselves to respond to key continent-wide development frameworks, notably the Comprehensive Africa Agriculture Development Programme (CAADP).

FARA's vision is to "Reduced poverty in Africa as a result of sustainable broad-based agricultural growth and improved livelihoods, particularly of smallholder and pastoral enterprises" its mission is the "Creation of broad-based improvements in agricultural productivity, competitiveness and markets by strengthening the capacity for agricultural innovation at the continental-level"; its Value Proposition is the "Strengthening Africa's capacity for innovation and transformation by visioning its strategic direction, integrating its capacities for change and creating an enabling policy environment for implementation". FARA's strategic direction is derived from and aligned to the Science Agenda for Agriculture in Africa (S3A), which is in turn designed to support the realization of the CAADP vision.

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# Background

The Forum for Agricultural Research in Africa (FARA), the African Forum for Agricultural Advisory Services (AFAAS), IITA and International Water Management Institute (IWMI) had organized a technical webinar on October 14, 2020, as part of the Technologies for African Agricultural Transformation (TAAT) Program of the Feed the Future initiative funded by the African Development Bank (AfDB).

FARA is leading the enabler compact for Capacity Development and Technology Outreach (CDTO) complementing the commodity compacts, such as the Water Management Enabler Compact led by the International Water Management Institute (IWMI) by acting as a process facilitator in the delivery of the proven technologies at scale.

FARA has so far done so through training of trainers (TOT) for Innovation Platforms (IPs) facilitators to help establish Innovation Platform (IP) as the main model for implementing TAAT. In addition, the CDTO Enabler Compact is supporting the compacts develop modular outreach materials for scaling of technologies within these local innovation platforms. Instruments have also been developed to assist the IPs identify their capacity development needs.

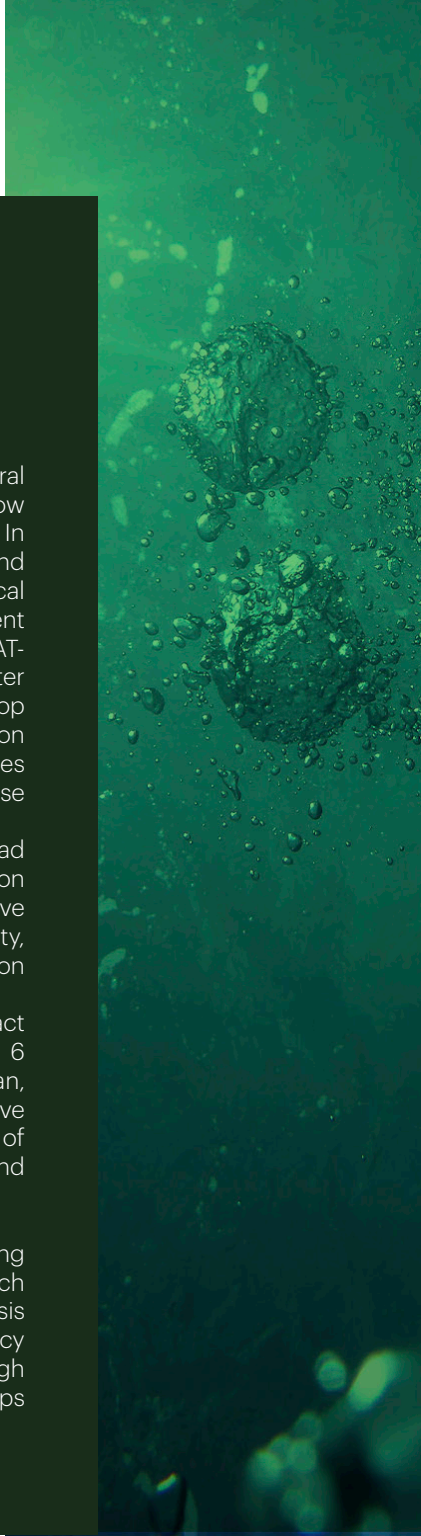
# Brief overview of the Water Management Enabler Compact

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Irrigation is creating resilience among rural population, especially in fragile regions with low rainfall to increase profitability of agriculture. In addition, it is attractive to the youth farmers and service providers and creates high-end technical jobs. The International Water Management Institute (IWMI) led Water Enabler Compact (TAAT-WEC) stands uniquely as a pillar for meeting water needs in crop production systems to boost crop productivity and income. It focuses mainly on irrigation and water management technologies that will help small-scale farmers increase sustainable agricultural production and income. The TAAT-WEC vision of success is widespread adoption and use of small-scale irrigation and water management solutions to achieve sustainable increase in agricultural productivity, reduction in poverty and rural transformation through viable value chains across Africa.

The Water Management Enabler compact technologies are currently being scaled in 6 countries (Mali, Burkina Faso, Nigeria, Sudan, Ethiopia and Malawi). The technologies have been integrated into the production systems of rice, sorghum, orange-fleshed sweet potato and wheat.

There are very important conditions for scaling water solution to small-scale farmers, which includes: Enabling environment (analysis of enabling environment, providing policy recommendations, leveraging funds through introduction of technologies); Partnerships



capacity development like creating partnerships with national scaling partners, capacity development, creating training materials and technology delivery through demonstrating technology toolkits, organizing farmers' field days etc. in order to scale up the water enabler technologies, the compact uses different approaches

such as provision of training on water solution for extension agent and youth service providers, demonstrating the water solution (technology) jointly with farmers in local events and youth service provider delivers services (feasibility, installation and maintenance) to farmers.

## **Business Opportunities Identified in the Water Management Enabler Compact**

TAAT-WEC focuses mainly on irrigation and water management technologies that will help small-scale farmers increase sustainable agricultural production. The compact developed the capacity of extension agents and youth to support farmers in selecting appropriate technologies to gain access to water for irrigation. A facilitators manual for farmer-led irrigation, technology sheets and training materials are being developed. TAAT-WEC demonstrated a technology toolkits (water solutions plus value chain compact technologies) consisting of modern crop varieties, good agricultural practices, and irrigation and water conservation

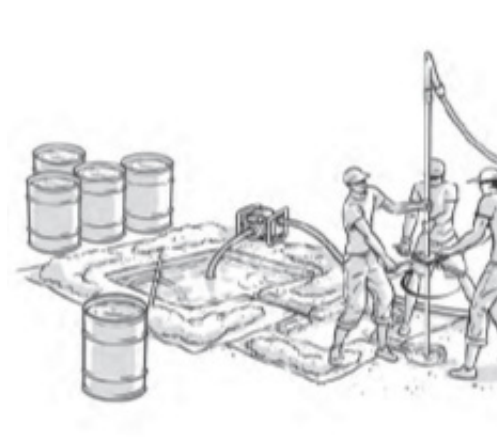
technologies. Extension agents were promoting the use of technologies around established demonstration sites. Youth operate as service providers to farmers and brokers of these technologies. TAAT-WEC and national partners created visibility to beneficiaries by linking to innovation platforms, and farmer and water user associations. Hence, farming, input supply, service provision like irrigation feasibility, installation and maintenance were some of the business opportunities identified for youths in the water management enabler compact.



# The technology with a potential towards commercialization

International Water Management Institutes (IWMI), through TAAT-WEC supports small-scale farmers with gaining access to low-cost irrigation and water management technologies. The shallow tube-well for ground water is one of the potential technologies towards commercialization of irrigation water development. The initial investment for the technology is low as water can be lifted at relatively low cost with small motorized pumps or for free

using solar pumps. The shallow tube-well technology permits farmers to cultivate off-season or deploy supplementary irrigation during the main season in case of drought spells. Shallow groundwater availability is less than 10 meter from the surface. IWMI offers developed and validated tools like Water Accounting+, participatory mapping, participatory planning for a more inclusive and sustainable integrated water management.



*Fig 3 Shallow tube-wells for ground water*

## A Business path-ways towards commercialization of water management enabler compact

In TAAT-WEC, IWMI has brought together national agricultural organizations and five commodity value chain compacts to scale out technologies in six target countries. TAAT-WEC enables the Wheat, Rice, Sorghum/Millet, Maize and Orange-fleshed Sweet Potato value chains by creating an enabling environment for large-scale adoption of low-cost irrigation and water management

technologies through policies and programs, capacity development, and demonstration and visibility events.

The national agricultural organizations have a mandate to promote irrigation development in their respective countries, while maintaining strong links with water user and farmer associations, extension services, the government and the private

sector. Through TAAT-WEC, they promote appropriate technologies in national programs and policies on agriculture and food security. They are also responsible for implementing activities in-country coordination with other compacts, engage press for visibility within the countries and entry points in National/Federal/State ministries.

## Experience from the field and Beneficiaries

The use of this technology in rice production in Nigeria, Mali and Burkina Faso has resulted in the expansion of the cultivated area of rice in the off-season. It has also led to agricultural intensification and diversification of income, and increased income for female rice farmer groups. Incorporating this technology together with water efficient conveyance

systems and in field water management improvement it impacted into the wheat production to an average yield increase of 60%, a decrease of irrigation water use by 18% in Ethiopia, increase in water productivity by 119% in Sudan, and the tube-well technology proved to lead to irrigated area expansion in Nigeria.



*Figure: Rice and wheat cultivation through shallow tube wells technology*

## Contact address:

If you are interested to start your business water management enabler compact, please contact the following institutions and people

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If you want to learn more about water management please visit the following sites:

<https://www.iwmi.cgiar.org/>

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