

Technology Fact Sheet for Adaptation

Technology: Water User Associations ⁱ	
Technology characteristics	
Introduction	<p>A Water User Association is a unit of individuals that have formally and voluntarily associated for the purposes of cooperatively sharing, managing and conserving a common water resource. The objective of a WUA include; conservation of water catchments; sustainable water resource management; increase availability of water resources; increased usage of water for economic and social improvements and development of sustainable and responsive institutions. The WUA can contribute to climate change adaptation by providing a cooperative mechanism through which impacts of climate change on water resources can be monitored and water users and decision makers can be empowered to manage and allocate water resources with a consideration for climate change.</p> <p>The concept of Water User Associations was introduced in Ghana as major step towards involving farmers at irrigation facilities in the management of schemes and allocation of water rights. This is necessary for effective and efficient management and maintenance of the schemes in collaboration with government. Since its introduction the concept have been found to be workable and has led to improvements in management of irrigation facilities especially small-scale schemes.</p>
Institutional and organizational requirements	<p>The success of the use of the technology depends on the development of an organizational structure including leadership roles and responsibilities, financial management rule and procedures. The structure must be supported by a constitution or an operational manual provides for leadership accountability and financial auditing.</p>
Operation and maintenance	<p>The technology can be implemented at local (community) river basin levels. The operations of WUAs will need to be supported by necessary technical support by appropriate agency.</p>
Endorsement by experts	<p>The technology has been endorsed as appropriate for effective management of water resources as a climate change adaptation measure.</p>
Adequacy for current climate	<p>WUAs are relevant for addressing current climate change effects at the community and water basin levels since it provides opportunity for local leadership in management and conservation of water resources including water use rights which is important for addressing to current climate variability and future climate change.</p>

Size of beneficiaries group	The technology has the potential of increasing access to water resources for multiple user groups and over longer periods
Disadvantages	A major disadvantage of the model is the risk of poor management structures and unclear roles and responsibilities of the WUAs. Additionally, undue political influences could limit the effectiveness of WUAs in the performers of their duties.
Capital costs	
Cost to implement adaptation options	The major cost associated with WUAs is that needed for initial capacity building activities (technical support, organizational development, initial operational cost etc.). The total cost for developing and operationalizing one WUA will not exceed US\$100,000.
Additional cost to implement adaptation option, compared to “business as usual” (extra storage capacity)	
Development impacts, indirect benefits	
Reduction of vulnerability to climate change, indirect	Contributes to reduction of vulnerability to climate change through effective management of water resources that results in increased productivity of water.
Economic benefits	
Employment	The technology supports employment at the community through ensuring availability of water for off season farming activities.
Investment	Requires low investment for capacity building of WUAs
Public and private expenditures	Reduce public and private expenditures on climate related disaster management through its support to building community resilience.
Social benefits	
Income	Provides source for extra income for farmers’ groups through increasing water availability for production. WUAs can also develop market cooperatives that ensures effective marketing of members’ produce
Learning	Creates opportunity for increased group and individual learning at group and community level
Health	The technology has the potential reducing health risks within communities through improved management of water resources that supports improvement in water quality.
Environmental benefits	WUAs are essential part of Integrated Water Resource Management that ensures sustainable use of water resources.

Local context	
Opportunities and Barriers	The current national water policy provides for participation of various stakeholders management of water resources using IWRM approach. Additionally there are number water basin management boards that are collaborating with different stakeholders to achieve improved management of water resources. The Ghana Irrigation policy also recognizes the important role of WUAs in the effective and efficient management of schemes. A major barrier could be the lack of commit of government to support the initial capacity development of these WUAs and also put in the necessary regulatory framework to ensure their effective management .
Market potential	This is a non-market technology
Status	The technology is being used to management a number of water facilities across the country with success.
Timeframe	The implementation can start now.
Acceptability to local stakeholders	The technology is acceptable to local stakeholders.

ⁱ This fact sheet has been extracted from TNA Report – Technology Needs Assessment Report – Ghana. You can access the complete report from the TNA project website <http://tech-action.org/>