

Technology Fact Sheet for Adaptation

Technology: Post-construction support (PCS) for community- managed water systems ⁱ	
Technology characteristics	
Introduction	The community that can adequately manage its own water supply system over the long term without any form of external assistance is the exception rather than the rule. Post-construction support (PCS) can increase the success and sustainability of community-managed water systems. This is even true for those systems that are implemented according to all the currently recognized best practices of the “demand-driven, community-managed model. PCS is typically carried out through government programs, municipalities and other bodies that provide community-managed water systems. Types of PCS include, but are not limited to: • Technical training for water system operators • Technical and engineering support, including provision of technical manuals • Financial and accounting assistance (e.g. setting tariffs) • Help with settling disputes (e.g. bill payment or water sources) • Help with maintenance, repairs and finding spare parts • Assistance in finding external funding for O&M, expansion or repairs • Assistance in assessing the sufficiency of supply for expansion or in the case of drought • Start-up capital for emergency system repairs • Household visits to residents to discuss water system use. PCS contributes to climate change adaptation at the community level through: (1) Diversification of community water supply (2) Promotion of water conservation, and (3) Increased resilience to water quality degradation. PCS can empower community water committees and operators to access the financial, management and technical resources that enable utility-managed supplies to prepare for and adapt to adverse precipitation conditions. PCS facilitates community ownership, management and maintenance of water systems, promotes women participation in their management and improves system performance and sustainability.
Institutional and organizational requirements	Four basic PCS institutional models: • Centralized Model: where support services are provided by a government agency or ministry operating from a centralized point, directly engaging with community

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	management structures in rural areas. • Deconcentrated Model: under which support services are provided by a central government agency operating, with a degree of autonomy, through regional or departmental level offices. • Devolution Model: where the authority and responsibility for provision of support services is transferred from a central government agency to a decentralized tier of government, usually at the municipal level. • Delegated Model: where the responsibility for provision of support services is delegated from a central or local government agency to a third party, which could be an NGO, a private sector company or a relevant user association Regardless of the model, it is important that: • The roles and responsibilities among PCS staff are defined. • Community water committees understand clearly which operation, maintenance and administration tasks are the responsibility of the community. • The respective roles of all stakeholders are recorded and disseminated.
Operation and maintenance	Operation and maintenance consists primarily of training for community members, especially with respect to system management and protection of water quality. Budgets would also be required to support field visits to communities by field staff of the supervising and monitoring agency. Monitoring and evaluation of PCS systems would be required in order that the necessary adjustments in their operation are promptly made to ensure sustainability.
Endorsement by experts	PCS is widely recognized by experts as a means of ensuring the continuous operation of community owned and managed water system.
Adequacy for current climate	Very suitable for both current variability and future climate change. It empowers communities to adapt appropriately to adverse rainfall conditions now in the future.
Size of beneficiaries group	PCS is targeted to communities or clusters of communities and not few individuals.
Disadvantages	The benefits of PCS are primarily medium-term to long-term and are often difficult to quantify. If not demand-driven could lead to system malfunction as the critical element of ownership would be missing.

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Capital costs	
Cost to implement adaptation options	These costs include salaries, office overhead, training costs, and a substantial transportation budget for field staff to travel to rural communities. Cost per community system established = USD 150/annum Total costs (3 000 units)= USD 450 000/annum
Additional cost to implement adaptation option, compared to “business as usual” (extra storage capacity)	Additional cost per unit = USD 50/annum Total additional costs = USD 150 000/annum
Development impacts, indirect benefits	
Reduction of vulnerability to climate change, indirect	
Economic benefits Employment Investment Public and private expenditures	Creation of jobs to support operation and maintenance of water systems and to provide training to users/households. Can create investments in production of items such as pump parts. Reduce public and private expenditures associated with completely broken down water systems.
Social benefits Income Learning Health	Ensuring availability of water in communities would reduce household expenditure on more expensive potable water sources such as water tankers and bottled water. The water can also contribute to productive and economic livelihood purposes, especially the water system could be used for irrigation and livestock watering. Training elements from capacity building Improved health improves school attendance Contributes to water availability and eliminates dependence of communities on unimproved water sources. Better managed systems for irrigation, for example, could result in improved nutritional status of beneficiary communities. These will result in improved health for households including women and children. In general, can result in stronger social cohesion in beneficiary communities.
Environmental benefits	PCS could result in water availability for the environment and protection of water bodies from proper water systems

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	management and water conservation.
Local context	
Opportunities and Barriers	There exists national agencies in many countries such as Ghana and NGOs that provide some support to community managed water systems. These can be scaled up with further sources of funding. The effectiveness of PCS requires education of key stakeholders and a reliable source of funding.
Market potential	The technology is small-scale, proven and less capital-intensive. It has market potential nationwide.
Status	PCS is already being undertaken in various communities in Ghana, promoted by the Community Water and Sanitation Agency of Ghana and NGOs. This need to be improved, strengthened and applied country-wide.
Timeframe	The implementation can start now. Communities could be assisted in adapting to climate variability now while preparing for adaptation to climate change impacts in the future
Acceptability to local stakeholders	PCS 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/>