Article

Evolution of Community-Managed Water Supply Projects From 1994 to the 2010s in Ethiopia

Public Works Management & Policy
2015, Vol. 20(4) 379–400

DOI: 10.1177/1087724X15593955
pwm.sagepub.com
SAGE

Beshah M. Behailu[1,2], Arto Suominen[3], and Tapio S. Katko[2]

Abstract

This article discusses the evolution of community-managed projects (CMPs) along with the global community-based management of water supply and sanitation services since the 1960s, particularly the evolution of Ethiopian water resources development in the last century. The study was conducted with intensive reviews of journals, reports, project documents, and discussions with the people involved in CMP implementation, including many Ethiopian government officials. The article presents the various development phases of the water and sanitation sector in Ethiopia together with national and global influences. Currently, in the 2010s, the CMP financing mechanisms and the national development of water supply and sanitation are more organized and integrated, and are in the stage of scaling up. The recently agreed national water, sanitation, and hygiene strategic framework is expected to have significant impacts on the rural water supply and sanitation development in Ethiopia.

Keywords

community-managed projects (CMP), sustainability, evolution, water sector reforms, Ethiopia

Introduction

It has been over three decades since the concept of community management in water supply and sanitation has become well known in development policies worldwide

[1]Arba Minch University, Ethiopia
[2]Tampere University of Technology, Finland
[3]Community-Led Accelerated WASH (COWASH) Project, Addis Ababa, Ethiopia

Corresponding Author:
Beshah M. Behailu, Tampere University of Technology, P.O. Box 541, FIN-33101 Tampere, Finland.
Email: behailu@student.tut.fi

(Dewan et al., 2014). It is a crucial component to rural water supply and sanitation development (Doe & Khan, 2004). Due to the inefficiency of the top-down approach, community development and sustainability are becoming highly important. Therefore, involving the users at all stages of a project is considered mandatory for well-functioning community management. Having the users participate in the selection of appropriate technology, the site and level of service, and encouraging them to pay part of the investment, operation and maintenance costs are very crucial in winning over the hearts of the community.

Although community leadership in the planning and implementation stage of projects is an asset to realize the community ownership of their own systems, it is not an easy task to abruptly have the intended community leadership without thorough awareness raising among the community and local government officials. In the past water supply implementation, operation and maintenance were considered the responsibility of governments in developing countries (Rouse, 2013), and users were expecting to have water service for free (Moriarty, 2003). Such thinking still exists in the rural parts of the developing economies. In this respect, a lot needs to be done to make those rural communities that suffer most from problems in water supply and sanitation realize their key role in the sector. Thus, the focus has been shifted more toward community management in the last decades.

The idea of community management of water supply systems was conceived when the targets set during the 1980-1990 International Drinking Water Supply and Sanitation Decade (IDWSSD) were challenged. In the decade, more attention was given to the appropriate technology and physical construction of systems and finally the role of the social aspects given recognition as an important element to meet the goals (Kalbermatten, 1991). According to the lessons learned during the decade, the hardware and software aspects of water supply and sanitation systems are strongly tied together, and the latter should not be ignored while working with the former to maintain the longevity of service delivery (Cairncross, 1992). This was reaffirmed during the second United Nations Conference on the least developed countries in 1990 (United Nations [UN], 1990b), the World Summit for Children (United Nations Children's Fund [UNICEF], 1990), and the New Delhi Statement, Global Consultation on Safe Water and Sanitation in September (United Nations, 1990a), stressing the need for community management to improve water and sanitation sustainability in developing countries. In particular, the New Delhi Statement requested the full participation of women and promoted the introduction of community management and the adoption of workable financial practices.

Based on feedbacks and recommendations drawn in the early 1990s, donors, nongovernmental organizations (NGOs), and national governments have mainstream community management into their development strategies (Manor, 2004). Various parts of the developing world initiated and started the practice in the 1990s. Similarly, in 1994, Ethiopia introduced a community-focused multi-sector project in the Amhara regional state in collaboration with the government of Finland (GoF). The project has grown and changed its implementation approach toward a more decentralized and community-led implementation called the community-managed project (CMP).

Now, CMP is one of the four water supply and sanitation implementation approaches in the country, the other three being the Woreda (District) Managed Project (WMP), the NGO Managed Project, and Self-Supply (WASH Implementation Framework [WIF], 2013). All these approaches have their own distinct features of water supply schemes implementation. However, this article intends to discuss only CMP as it is favored by national and local governments and has evolved through different phases and changes in implementation principles.

Thus, a study was conducted on the suitability of the approach for alleviating the problems of the rural water supplies of developing economies, in particular in the Ethiopian context. This article is one of four articles intended for publication. The forthcoming studies will present a comparative view of CMP with other approaches applied in the country, the reasons for frequent service failures of the rural schemes, and the importance of local management practices for sustainable rural water supply.

Objectives and Methodology

The objective of this article is to provide better understanding and knowledge of CMP from its evolution in relation to national and international water service development. To attain its main objective, the article explored community management's historical background, Ethiopian water resources reforms, and the national water sector strategy and frameworks.

Based on the background and objective, we will first determine how the problems in rural water supply have contributed to the changes in implementing the principles of the approach. Second, we will evaluate the extent to which the approach has been influenced by the national water sector policy and strategy. Third, we will find out how and why the Ethiopian government has supported the approach.

Method

The study is mainly qualitative research involving little quantitative data. Although qualitative research may be criticized for its generalizability, and possible lack of objectivity and reliability of its findings, it can still be considered explorative research (Borrego, Douglas, & Amelink, 2009; Flyvbjerg, 2006). Contextual analysis allows avoiding the problem of generalizability. As this particular study is about exploring the approach, we prefer qualitative study. The data were contextually analyzed taking into account how the national situation has influenced the changes in the principles of implementation and to what degree the approach is incorporated into the national water sector policy and strategy recommendations. Moreover, the article tries to analyze whether the national government supports the changes both politically and financially.

The article includes reviews of published literature, project documents, official reports, and interviews of seven Ethiopian government officials (of different levels) and five project staff members directly involved in the projects.

The structure of the article is as follows: The first section explains the rationale of the research, research question, objectives, and methodology. The second section shows the evolution of the concept of community management in the last six decades since the 1960s and related challenges. The third and fourth sections deal with Ethiopian water resources and services' history and evolution of CMP, presenting the actual results of the article.

Community-Managed Rural Water Supply

The start of community involvement in water and sanitation development dates back to the 1960s and 1970s when community involvement started influencing the sector to make effective interventions (Moriarty, 2003; Cohen & Uphoff, 1980, as quoted in Cornwall, 2002). The Mar Del Plata Conference (World Water Conference) in 1977 was certainly influenced by the introduction of community concerns into the sector because it sets the ground for IDWSSD to put more emphasis on community involvement in the sector (Moriarty, 2003). The United Nations Conferences held in Vancouver (1976) and Mar Del Plata (1977) gave due attention to the low levels of water and sanitation in developing economies (Feachem, 1980). The latter conference called for IDWSSD to readdress the situation (Grover, 1991).

After a series of assemblies of the United Nations (Grover, 1991), following the World Water Conference in 1977, the IDWSSD (1981-1990) was proclaimed in November 1980 (Christmas, 1991). The objective was to bring full access to water and sanitation for all residents in developing countries by the end of the decade. Although the decade did not achieve its objectives, it was quite successful in creating awareness of community management and devising a strategy to improve sustainability (Christmas and de Rooy, 1991). According to Christmas and de Rooy (1991) and Cairncross (1992), the bottlenecks in the decade were the passive involvement of women and low community participation in the management of water and sanitation, as well as a lack of effective means of accelerating coverage in a sustainable manner. Community management was also challenged by the absence of cost recovery, lack of trained personnel, and unaddressed issues of operation and maintenance (Cornwall, 2002).

The slogan "Water and sanitation for all" was designed because of the different interests in the services among the users (IDWSSD, n.d.). The poor lacked services, while the rich wanted more services. It was obvious that the majority of the population in developing economies fell into the former category. The problem was unattainable unless there was a focus on the low-cost approach of service delivery to answer the question of the majority. Moreover, community participation was accepted in the early stages of the decade when the focus shifted to small NGO-led projects and low-cost technology. In this approach, users were encouraged to take an active role in providing inputs such as labor, materials, and/or cash. However, this model did not contribute greatly to the ambitious goals of the IDWSSD because they were small in number and scattered (Moriarty, 2003).

In 1983, Chambers wrote a book titled *Rural Development: Putting the Last First*. In this, he stressed that the community (village) is the center of rural development. In

other words, users should define and prioritize their needs through a bottom-up model. The process of community engagement in water supply and sanitation was in line with Arnstein's (1969) citizen participation ladder, from manipulation to tokenism, that is, from non-participation to user control. This is an indicator of how the community role has been rising gradually. Later in 1987, during the International Drinking Water Supply and Sanitation Consultation, the donor community and NGOs focused on community participation as one of the six basic prerequisites for improved operation of water and sanitation sector (WHO, 1987). Adhering to the conclusion of the consultation, many projects started to involve men and women in trench excavation, system care, and water committees (Moriarty, 2003). The community consultation and participation in the preparation and selection of technology was believed to convey a holistic impact on the service level. Consequently, the decade ended serving 1.2 billion and 770 billion people with potable water supply and access to sanitation facilities, respectively (Moriarty, 2003), and the concept of community management was created.

After the IDWSSD, the concept of community management has been widely applied. Yet, after two decades of working with communities, we are still concerned about sustainable service delivery. The objective of community management is to instill a feeling of ownership of schemes to keep them functional through their lifetime. Accordingly, different approaches have been emerged taking the community as a focal point. The bottom-up approach—where the community participates in all stages of projects and can choose its own development preference as concerns implementation—demands responsiveness, and demand-driven approaches have replaced supply-driven conventional implementation approaches. The motivation is sustainability, which makes all actors, partner organizations, governments, politicians, and user communities to work for long-lasting services (Cleaver & Toner, 2006). The concept of community management requires that the grass roots transform "from users and choosers to makers and shapers" (Chambers, 1983; Cornwall & Gaventa, 2001).

Community management has been accepted in most parts of the world, and community participation, user empowerment, and community representatives have become part of the vocabulary of the development sector (Cornwall, 2002). However, policies are not enough to address all issues related to different groups in a community (Cleaver & Nyatsamb, 2011). Poor and rich, men and women, and other groups can have different interests. Therefore, user committees rarely represent all (Cleaver, 1998; Manor, 2004). Manor (2004) as well as Harvey and Reed (2007) discussed the challenge of community management in rural development. Because user committees rarely represent the voice of the poorest (Manor, 2004), and men and women may have different interests, the interests of a household may differ from those of a community (Cleaver, 1998), which requires other measures. Thus, community management alone is not the solution, and we need to explore inter- and intra-community differences to be able to devise more participatory ways.

First, this article introduces the reader to Ethiopia and illustrates how the community management concept has been developed and how it has progressed in the country by linking it with national policy, water resources development reforms, and evolution of CMP in the following sections.

Table 1. Boom in Hydropower Dam Construction in Ethiopia 1960-1988.

Sr. no.	Hydropower dam	Completion year
	Koka	1960
	Tis Abay	1964
	Awash II	1966
	Awash III	1971
	Fincha	1973
	Melka Wakena	1988

Source. Kloos (2010).

Ethiopian Water Resources and Services History

Ethiopia, the only uncolonized state in Africa, has its own historical development. In fact, there was no adequate documentation practice in the country, especially in terms of the challenges and successes of the development endeavors. Thus, it is somewhat difficult to find organized evidence for the first half of the 20th century and earlier. However, a few findings from the literature indicate that the first piped water supply system in Ethiopia was introduced during the rule of emperor Menelik II (in power from 1889-1913). According to Gnogno (1984), pipes were transported over 500 km from Dire Dawa, the town connected with Djibouti by railway, to Addis Ababa and carried by human labor, installed and brought into operation in 1905 in the Imperial Palace of Addis Ababa. It was a surprise among the elites of the country to see water flowing in an unnatural way. At the time, water was abundant from various springs and shallow hand-dug wells, and water treatment was not a concern until 1938.

The construction of a treatment plant for the Addis Ababa water supply in 1938 (Sime, 1998) and the Aba Samuel dam for hydropower in 1932 (Shinn, 2013) could be considered the first major effort toward the development of water resources for the benefit of the public. The construction of the *Gefersa* and *Legedadi* dams in 1944 and 1970 (Sime, 1998), respectively, was a significant effort made in the water supply sector. Moreover, many hydropower dams were constructed in the 1960s and later, as displayed in Table 1. This indicates that the 1960s were the beginning stage of the sector development in the country. Subsequently, during the Ethiopian People's Revolutionary Democratic Front (EPRDF) regime (in power since 1991), intensive efforts have been made toward the development of water resources, especially hydropower dams: The Tekeze, Gilgel Gibe I-III, Tana Beles, Grand Renaissance Dam, and others are among the developmental efforts of the present regime.

The more recent history of Ethiopian water resources development can be linked with the modern constitution of 1955, which placed greater priority on water development. A year after the ratification of the constitution, the first Water Resources Development Department was created in 1956 under the umbrella of the Ministry of Public Works and Communication (Assefa, 2008; Ministry of Water & Energy [MoWE], 2014). The role of the department was to conduct investigations in the Blue

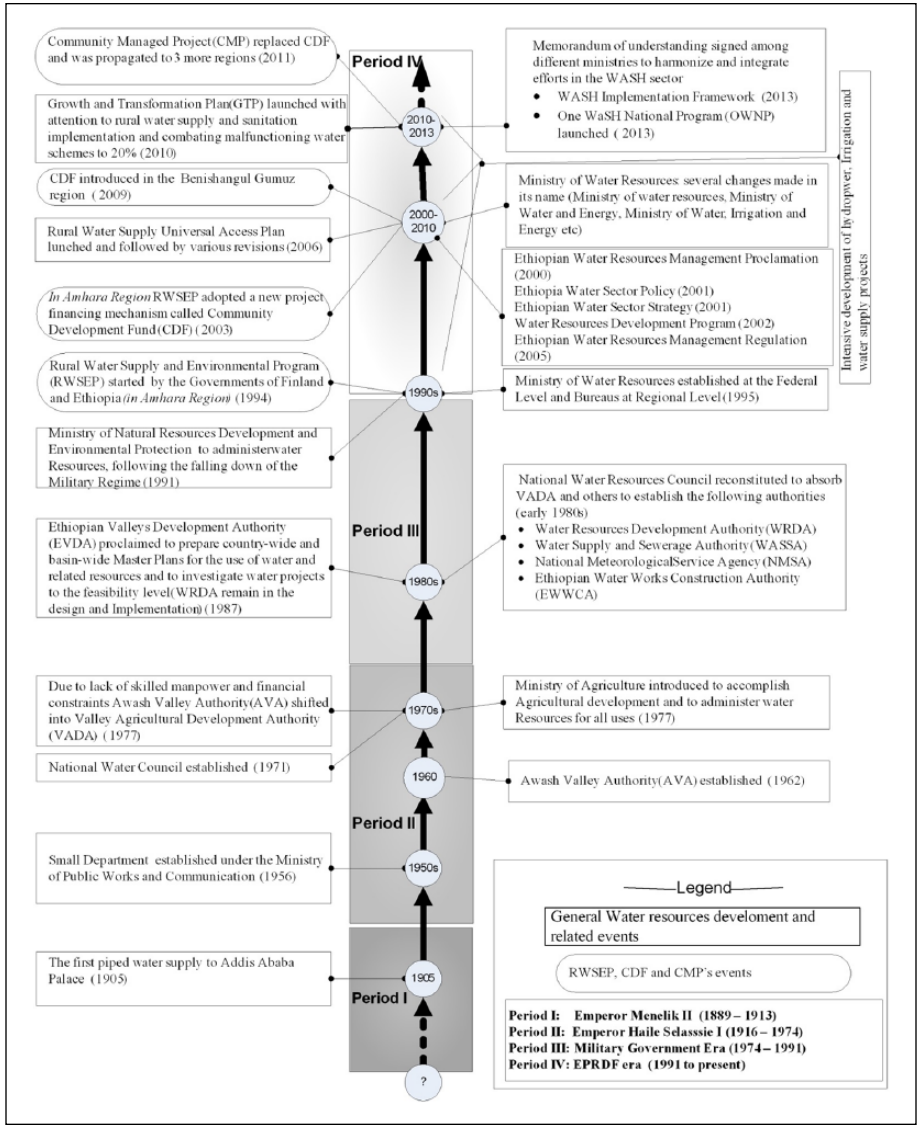


Figure 1. Major events in Ethiopian water resources development from the early 20th century to 2013.

Nile Basin for multiple uses (Assefa, 2008). However, due to the mission of the department to focus solely on this basin, it did not cover other basins. Figure 1 highlights the major events that took place in water sector development in Ethiopia.

In 1962, the Awash Valley Authority (AVA) was established to plan, design, and manage development in the Awash Valley (MoWE, 2014). In 1971, the National Water Resources Commission (NWRC) was established to administer water resources development in all basins of the country to overcome the basin-limited development activities by the AVA and the first department assigned in 1956. In the 1970s, the water sector was confronted with a lack of skilled manpower and financing. As a result, in 1977, the AVA was forced to merge with the newly organized Ministry of Agriculture (MoA; MoWE, 2014). The goal of the latter was to accomplish all development activities. The administration of water resources by the MoA continued until the year 2000 at the district (Woreda) level. Agriculture, water supply, and irrigation are all related to rural development, but under the umbrella of the MoA, the former took advantage of the others and received the major portion of human and financial resources in addition to the attention from high officials.

The Water Supply and Sewerage Authority (WSSA) emerged in the 1980s after the NWRC was reorganized by dissolving the Valley Agricultural Development Authority (VADA) to establish new fully fledged authorities for different responsibilities. These included the Water Resources Development Authority (WRDA), the WSSA, the Ethiopian Water Works Construction Authority (EWWCA), and the National Meteorological Service Agency (NMSA; Arsano, 2007; Assefa, 2008). Later in 1987, a new structure appeared to share the responsibility of the WRDA (MoWE, 2014). The Ethiopian Valley Development Authority (EVDA) was established to prepare country-wide master plans for water-related developments and studies on the feasibility level (MoWE, 2014). The institutional reforms in Ethiopia in the 1980s were able to bring about the WSSA as a developmental entity, which was certainly influenced by the IDWSSD in the 1980s. However, the decade was tragic for Ethiopia due to the several droughts that caused millions to die. Therefore, the goals set for the decade could not be achieved.

The years from 1974 to 1991 were stagnant in terms of implementation partly because the country was in a deadly civil war and experiencing severe famine. Thus, all the attention and resources of the county were devoted to regime safeguarding and combating the famine. Nevertheless, the regime achieved a considerable institutional reform, unlike its precursors; WRDA, WSSA, NMSA, and EWWCA were established during the period to perform respective roles in the sector (Arsano, 2007). Moreover, the establishment of the Arba Minch Water Technology Institute (AWTI) in 1986 was also evidence of the ambition of the regime to encourage water resources development.

However, the 1990s brought about a new era for the country, when the military government fell in 1991. The national constitutions, institutional arrangements, and administration systems were changed. The centralized governing structure was decentralized, and nine ethically delineated administrative regions were formed. Moreover, the responsibility of the sector authorities cascaded down to the regional levels. The interim government established the Ministry of Natural Resources Development and Environmental Protection in 1991 to handle the development of water resources and other natural resources activities. In 1995, following the enactment of the new

constitution, it was renamed as the Ministry of Water Resources (MoWR) with counterpart bureaus at the regional level.

After the military regime (1974-1991), the EPRDF government has intensively invested in water resources development, especially for hydropower, irrigation, and water supply. During the last 10 years, special attention has been given to rural water supply and sanitation compared with the previous regimes. Ethiopian Water Sector Policy (Ministry of Water Resources [MoWR], 2001a), Ethiopian Water Sector Strategy (MoWR, 2001b), National Hygiene and Sanitation Strategy (Ministry of Health [MoH], 2005), and other sector documents have been produced from 2001 to 2014 (Arsano, 2007; MoWE, 2014). Because of the fragmented nature of the development efforts in the sector, the European Union Water Initiative in 2005 with the government of Ethiopia (GoE) made a series of thorough discussions, which culminated into the first Multi-Stakeholder Forum organized in 2006. As a result of this start, the sector development partners with four line ministries of Water, Finance, Health, and Education signed the WIF and developed the One WaSH National Program (OWNP) in 2013. These two major sector development documents had significant impacts on the sector as a consequence of collective action.

In 1994, the Rural Water Supply and Environmental Program (RWSEP) was established. It started functioning in Amhara, one of the nine regional states. The RWSEP was a bilateral program operated by the regional government with financial assistance from the Government of Finland [GoF]. The main objective of the program was to improve the access of the rural population to water and sanitation. To comply with the national policies, it was shaped in a similar fashion to the Ministry of Natural Resources Development and Environment. The word "environment" in the program's name also gave emphasis to environmental sanitation.

Focus of the Ethiopian Rural Water Supply Policy and Strategy

As indicated in Figure 1, the currently used policy and strategies of the water sector came into force in 2001. They boldly state that all funding for the water sector from any source should be utilized based on national objectives, policy, and strategy. Moreover, both the national water sector policy (MoWR, 2001a) and strategy (MoWR, 2001b) take into account some non-direct developmental activities. Beyond the implementation of a main development component, any development measure requires dealing with the conservation and protection of resources and the environment, creation of an adequate platform for future operation and maintenance, and rehabilitation and replacement of developing systems. Training and human resources development, adequate information and documentation as well as other means of enhancing and ensuring sustainability of systems are also very vital.

Stakeholder involvement, capacity building, cost recovery, and appropriate financial management are considered very important for bringing into effect the abovementioned requirements in water resources development. Accordingly, the policy and strategy have been devised to take them into account adequately as summarized below (MoWR, 2001a and MoWR, 2001b):

- Being participatory and demand driven, and recognizing social equity and respecting their norms.
- Enhancing the ownership feeling.
- Enhancing the role of women during planning, implementation, and decision making.
- Promoting self-financing of programs and projects at the local level with special provisions for subsidies to communities that cannot afford to pay for basic services, being only able to cover investment costs.
- Seeking cost recovery, transparent financial management, public accountability and financial sustainability of water supply systems.
- Promoting the participation of local banks, other investors as well as popular and traditional self-help social associations (Idirs, rural credit services, etc.) in the development of water supply through appropriate incentive mechanisms.
- Developing coherent and streamlined institutional frameworks for the management of water supply at the Federal, Regional, Zonal, Woreda, and Kebele levels and clearly defining the relationships and interactions between them.
- Building technical capacity in terms of water source investigation, design, engineering, water quality control, operation and maintenance, construction technology and facilities.
- Promoting objective-oriented training with special emphasis on trade-level training, community participation, administration and finance, and operation and maintenance.

Evolution of CMP

The CMP approach has not evolved spontaneously; rather, it has developed through several steps and the experience of two solid decades. Initially, it emerged as the RWSEP in Ethiopia in 1994. The RWSEP was implemented for two 4-year phases using the Woreda Managed Project approach in financing the projects, with minor changes in the project implementation approach until the third phase brought a paradigm shift. The Community Development Fund (CDF) was introduced into the financing mechanisms of the water and sanitation systems by 2003. At this stage, all responsibility for the implementation was bestowed on the user community. After 8 years of CDF implementation (2003-2011) in Amhara and 7 years in the Benishangul Gumuz regional states (2009-2013), the CMP replaced it with the same philosophy and working principles. The name CMP was preferred to CDF after thorough discussions with WASH stakeholders while drafting the WIF in Ethiopia. One reason not to adopt the CDF name directly was that the CDF has a strong link with the bilateral project supported by the governments of Finland and Ethiopia. It was also important to separate the name from the other approaches implemented by the districts.

To track the development route of the RWSEP program, let us observe the changes exhibited in each phase. In total, the program has passed through four phases: Phase I (September 1994-June 1998), Phase II (July 1998-June 2002), Phase III (January 2003-December 2006), and Phase IV (July 2007-June 2011). Even if the objective of

the program is specific to water and sanitation implementation for the rural community, each phase has its own characteristics in terms of the issue addressed. The WSP (2010) describes them as follows:

- Phase I (1994-1998): Capacity building at the regional level;
- Phase II (1998-2002): Capacity building at the zonal and Woreda (district) levels;
- Phase III (2003-2007): Decentralization of the engagements to the community level and introduction of the community-level funding mechanism, the CDF; and
- Phase IV (2007-2011): Institutionalized capacity (at all levels) to implement and maintain sustainable community-managed water supply facilities with CDF funding.

Because Phases I and II were more focused on capacity building and Phases III and IV on the decentralization and institutional aspects, we will now discuss them and provide some highlights of the CMP.

RWSEP Phases I and II (1994-2002)

During the first two phases, the implementation of the RWSEP used the directly funded rural water supply implementation approach. In this approach, construction administration and management was carried out by the government bodies of the district (Woreda) following the priorities and demand expressed by the communities (Suominen and Urgessa, 2004). RWSEP used in its development need identification the Participatory Rural Appraisal (PRA) method. The PRAs revealed that the basic needs of the communities were many, including the improvement of water supply, schools, health posts, rural roads, grinding mills, and so on. It was also clear that household workload was imposed mainly on women. Women worked long days in extremely difficult conditions and were not provided any opportunity to lead the development work. Therefore, RWSEP Phases I and II focused on women empowerment using water supply and sanitation as an entry point.

In response, the program was focused on those developmental activities which helped the reduction of the women workload. Furthermore, the program provided seedling nurseries, especially at schools, to cope with environmental degradation and resource depletion and introduced energy-saving stoves to reduce female labor and deforestation, helped to train women to become active role-players in their community development and social affairs. This awareness and behavioral change in women participation at development work was done through the Information, Education, and Communication (IEC) and community training centers (Suominen, 2001). Here, the leading role of women was crucial for the development activity of the country.

Environmental protection was a great interest of the program. Therefore, to channel it to the grassroots level, awareness and education were believed to be important, and hence, the project environmental part was mainly addressed through the IEC. Capacity

building at the regional and zonal levels was the main target of the two phases of the project. The construction of water supply systems and ventilated improved (VIP) latrines for institutions was also carried out. SanPlat slab was introduced for the household level sanitation by using Contact Women approach (one Contact Woman is in charge of five households). Moreover, various social, technical, institutional, and environmental activities were also undertaken by the project (Suominen, 2001).

During the first two phases of the project, the regional organizational structure that accommodates water supply and sanitation was not well established, as water sector activities were performed under the Bureau of Agriculture and Natural Resources. However, the program was operated in conformity with national policy and the existing structure.

The capacity building of local artisans and regional human resources, water supply construction, the management of operations and maintenance, sanitation and hygiene education, the IEC, watershed management, energy, gender, enabling and supporting women through grinding mill provision by using credit schemes were some of the core responsibilities of the RWSEP. The approach was problem oriented and multi-sectoral. One of the most successful accomplishments of the two phases was the exploitation of the advantages of the traditional organizations of the community for the purpose of community mobilization and the development of skills in the area of water supply and sanitation at all levels. The lack of skills was one of the most serious problems in the sector next to the absence of a well-structured stand-alone organization to administer the activities.

RWSEP Phases III and IV (2003-2011)

Phase III was administered from 2003 to 2007 and Phase IV from 2007 to 2011. In general, the period from 2003 to 2011 was an era of CDF. These two phases are unique compared with the earlier phases because the former two phases were operated in a similar way to government investment in the sector (WSP, 2010). Although the community was permitted to take responsibility of the development in Phases I and II, the communities' capacity to manage the financing and construction of water schemes in general was questionable because of limited capacity building at the community level in this regard. Nevertheless, the CDF emerged with a special working platform, as discussed in the principles of the CMP previously, to empower the community more through practical training and experience sharing to manage the project.

The major changes from the conventional implementation of the project are related to the financial management, the project management, and the level of community involvement. The lengthy and bureaucratic government procurement was one of the driving factors to establish this new financial mechanism.

In 2003, banking coverage in the rural districts was less than 50%. However, the Amhara Credit and Savings Institution (ACSI) that was founded in 1997 offered banking access to each district and even to the sub-district levels. ACSI also provided service to government pension payments in the rural districts due to the lack of commercial banks. Nearly all of the individual savings accounts of the rural communities were

opened in the Micro-Finance Institution (MFI) sub-branch offices. Therefore, the selection of the local MFI for managing the financial transfers to the community projects was a logical decision.

CMP From 2011 to 2014

In 2010, the GoF asked the World Bank's Water and Sanitation Program (WSP) Africa to undertake an independent study to evaluate the achievements of the CDF and to recommend concrete and feasible measures for scaling up (WSP, 2010). The evaluation concluded that the CDF is highly efficient, cost-effective, and sustainable compared with other WASH implementation and financing modalities. Because of the added values of this approach, the GoE has taken the initiative of scaling up with the intention of including CMP-based implementation into the OWNP for its wider application, and the GoF decided to add financial support to the CMP scaling up. As a result, a 3-year Community-Led WASH (COWASH) Project was formulated, and it was launched in June 2011. The RWSEP program was terminated in November 2011, and COWASH took over the CMP implementation in all RWSEP districts in Amhara.

Since the launch of the COWASH, the WASH sector in Ethiopia has developed rapidly, and the cornerstone documents of the WaSH, such as the revised WaSH Memorandum of Understanding (MoU), were signed in November 2012; the Universal Access Plan II (UAP II) for rural and urban water and sanitation was completed in December 2012; the WIF was signed in March 2013; and the OWNP document was launched in September 2013. Later on in 2014, all regional states signed their own specific MoU for the WASH coordination. The COWASH document was revised and streamlined with the new WASH corner documents in September 2013. The revised COWASH became a 5-year project (2011-2016), with a 22 million EUR contribution from the GoF, a 23 million EUR contribution from the GoE, and a 5 million EUR contribution from the communities (COWASH, 2013b).

Regarding the planned scaling up of the CDF approach in the Project Document of COWASH, the situation has evolved, and the CDF funding mechanism has been incorporated into the WIF as the CMP approach. There is strong support among WaSH stakeholders for streamlining their programs, plans, and operations, according to the signed MoU for WaSH and WIF. This is manifested by the vivid communication for WaSH coordination between the various WaSH financiers. Many of the former barriers to joint efforts have faded in terms of the challenges of the WaSH development to reach the targets of the Growth and Transformation Plan (GTP; WIF, 2013).

COWASH has scaled up from 31 districts of three regions in 2011 to cover 67 districts of five major regions in 2014 (COWASH, 2014). In addition, the separate bilateral project (FinnWASH) supported by the GoF and operated in 5 districts in Benishangul Gumuz region was extended for an additional 2 years and will now be completed in July 2015 (FinnWASH-BG, 2014).

To implement OWNP effectively and according to the principles of WIF, several other relevant sector documents have been prepared, such as,

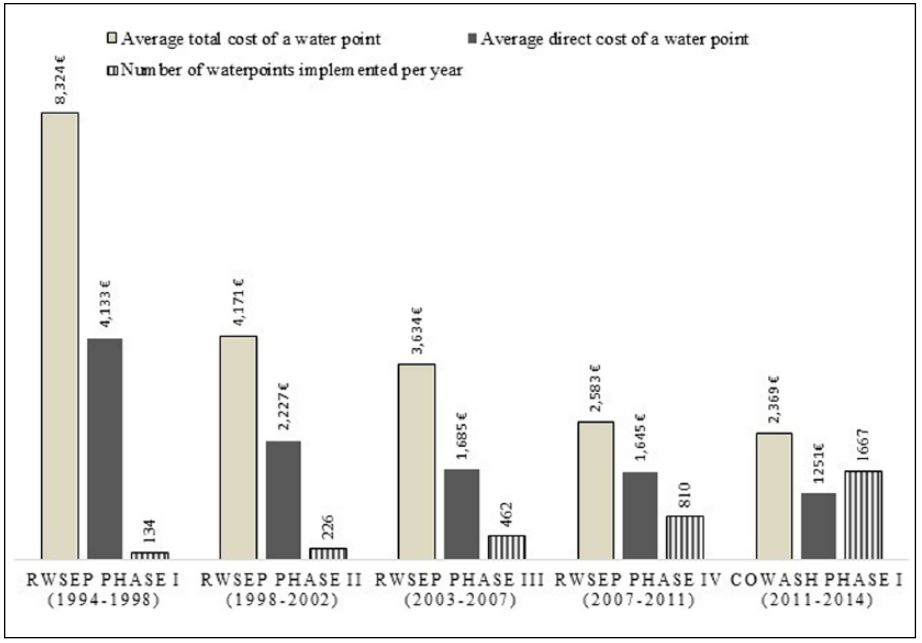


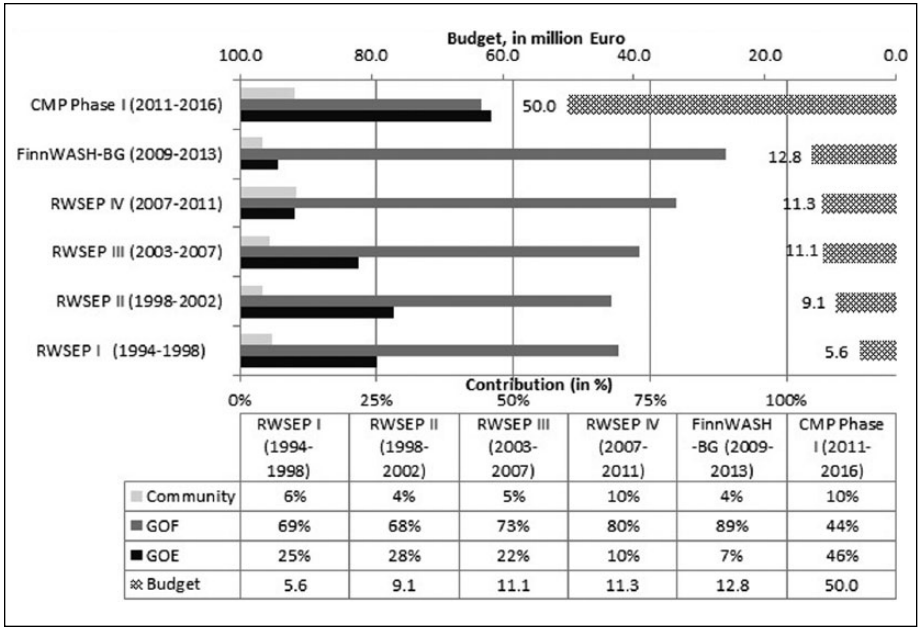
Figure 2. Decline of average unit cost of water points and improvement of annual implementation efficiency from phase to phase.

- Fiduciary Risk Assessment (October 2013)
- Environmental and Social Management Framework (October 2013)
- Social Assessment of the OWNP (October 2013)
- OWNP Operational Manual (September 2014)

Core Values of the CMP Approach in Ethiopia

Efficiency. As shown in Figure 2, the average unit cost of a water point has decreased from phase to phase while the annual implementation efficiency of the program has increased. Moreover, various studies by the World Bank and completed master's theses show that the functionality of schemes implemented by the CMP approach is much higher than the national average ranging from 94% to 98% (Mebrahtu, 2012; Mitiku, 2013; Sharma, 2012; Tesfaye, 2012; WSP, 2010).

Participatory. The term *participatory* is usually applied to the user community, but all other stakeholders also need to take part (Pineo & Subrahmanyam, 1975). In the case of the Ethiopian government, the CMP approach has achieved a lot. As shown in Figure 3, political willingness is expressed by the size of the contribution of the GoE to capital costs. Moreover, the user communities' contribution in cash, labor, and construction



	RWSEP I (1994-1998)	RWSEP II (1998-2002)	RWSEP III (2003-2007)	RWSEP IV (2007-2011)	FinnWASH-BG (2009-2013)	CMP Phase I (2011-2016)
Community	6%	4%	5%	10%	4%	10%
GOF	69%	68%	73%	80%	89%	44%
GOE	25%	28%	22%	10%	7%	46%
Budget	5.6	9.1	11.1	11.3	12.8	50.0

Figure 3. Contributions of the government of Finland, Ethiopia and the community in different phases of GoF WASH support.
Sources: RWSEP, 1998; RWSEP, 2004; RWSEP, 2007; FinnWASH-BG, 2013; RWSEP, 2012; and COWASH, 2013a.

materials is also substantial. This might be the main reason why the implementation cost per unit dropped by a quarter from the 1990s to the 2010s as shown in Figure 2.

Figure 3 indicates how the GoE is working with the development of the CMP approach to have a significant positive impact on rural community life through improved water supply and sanitation. This can be viewed as one of the major achievements of the GoF's support for Ethiopia. To ensure stakeholder participation in CMP implementation, political acceptance is significant (Pineo & Subrahmanyam, 1975) in addition to the environmental, social, and economic viabilities. The share of the contribution of the Ethiopian government to the project ranges from 10% to 46%. In COWASH, the GoE budget allocations contribute merely from the so-called regional block grant budget. The commitment of the government to adopt the new style is an indication of the increasing focus on the sector and the acceptance of the CMP financing mechanism.

Community empowerment. Involving user communities at each stage of projects is at the heart of CMP. Local government awareness is assumed to help the beneficiaries organize into a group, request projects that serve their interests, and save money for operation and maintenance. Training at an early stage is behind the quality of the CMP approach.

Providing local construction materials and labor during construction and control of the construction process is the responsibility of the user community. Community representatives manage the project implementation by contracting works to local artisans and delegating tasks to the Woreda (district) WaSH Team when things are beyond the capacity of the committee. Therefore, the CMP approach includes no handover process since the community owns the project from the very beginning. All these preconditions are meant to enable the users to manage their system after implementation.

Capacity building. Community-Led Accelerated WASH (COWASH) is a government project that follows the CMP approach. Capacity building in COWASH follows the cascading principle, whereby trained regional-level professionals transfer their knowledge down to the zone and district (Woreda) staff, and the district staff then trains communities to implement their own projects. Supervision and capacity building are led by a regional support unit (RSU) employed by the regional government with a Finnish contribution through the Regional Water Bureau. Capacity building focuses on project cycle management and improvement of the technical and financial management capacity of the communities to manage the whole project cycle.

Finance and procurement procedure. In the CMP approach, COWASH purchases the construction materials and subcontract artisans for the construction. Yet, the local government finance office periodically informs COWASH of changes in prices of construction materials, so that they can take them into account.

The financing mechanism is decentralized and managed at the community level. The investment funds of the regional government are transferred to a community account in a local MFI following the approval of a requested community water supply project (Suominen and Urgessa, 2004). The approval of the projects and funds passes through a desk and field appraisal for the purpose of investigating the commitment of the users, the inclusion of all, the seriousness of the problem, the technical feasibility of the project, the availability of local materials for construction, understanding of the responsibilities, and avoiding duplication efforts by other implementers. After the approval of the project, the community representatives and the district administrator sign a financing agreement. Thereafter, an account is opened by the local MFI office for the project, and the funds from the district CMP account are transferred to it. The district CMP account at the MFI is managed by the District Finance Office (WoFED). The funds to the district CMP account are replenished either by the Bureau of Finance and Economic Development (BoFED) or the Regional Sector Office according to the modality decided by the region.

As mentioned above, the target communities are checked for their readiness to undertake the responsibility for the project's operation and management. Mandatory requirements include the ability to pay cash upfront for operation and maintenance and to make a deposit in the account opened by the community at the local MFI. The amount of the upfront cash contribution, which is deposited at the initial stage of a project, varies from scheme to scheme but should be sufficient to cover maintenance of the scheme for a year.

Discussion

Water resources development in Ethiopia is quite young, and the water supply, sanitation, and hygiene sector in rural areas has recently received more attention than during earlier development endeavors. In the 1980s and 1990s, development efforts were greatly challenged by the civil war, and the water resources development governance structure could not have a significant impact. Furthermore, sector development was influenced by the IDWSSD and later by the New Delhi Statements. This is evidenced by the institutional reforms begun in the 1980s and the attention given to environmental protection and the start of the bilateral project that works at the community level. The RWSEP track record was also shaped by national and international policies and declarations. For example, the Paris Declaration (2005) became the benchmark for the RWSEP service improvements through COWASH.

As illustrated in Figure 2 and explained in the policy and strategy section of this article, the shift of RWSEP to the CDF implementation approach in 2003 was influenced by national policy. It can be justified by the inclusion of the core values of the policy documents into the approach: promoting a local bank (MFIs), focusing on capacity building, empowering the user community, facilitating better operation and maintenance, and so on.

After the new constitution of Ethiopia in 1995, water resources development and water supply in particular have received attention. Hygiene and sanitation have for a long period of time remained marginalized, and only recently in the process of developing the sector-wide approach, they have gained adequate attention in terms of finance and political recognition.

According to the film titled CMP, higher officials from the Ministry of Water, Irrigation, and Energy and from the Ministry of Finance and Economic Development blessed the success of CMP/CDF (Finland, 2012). They stressed that by following and strengthening the CMP approach, it will be possible to achieve the Millennium Development Goals as well as those of the National GTP. Moreover, as observed during the first author's fieldwork in the Amhara regional state in 2013, the commitment of the regional government proves that the CMP gained substantial attention, although financial regulations blocked its scaling up. The other indicator for CMP acceptance by the Federal government and other WASH actors is the inclusion of the CMP as one of the four implementation modalities in Ethiopia to the WIF.

The interest of regional governments in developing a financing mechanism of their own has increased from year to year. Keeping in mind that the GoF is not funding 100% of the cost, the regional governments should contribute some proportion as indicated in Figure 3. Therefore, the interest of the regional governments in contributing their share indicates something about the acceptance of the project. From Phases I to III, it was administered in the Amhara region; during Phase IV, CDF was introduced to the Benishangul Gumuz region by the FinnWASH-BG (Rural Water Supply, Sanitation and Hygiene Program in Benishangul Gumuz regional state), and in the COWASH Phase, the regions working with the bilateral project increased to five. These project success stories help to gain positive interest from the regional governments.

Conclusions and Policy Implications

This article has explored the development of community management in water supply and sanitation, water resources development, and the evolution of the CMP in Ethiopia. Despite the somewhat slow progress of the country's water resources development, it indicates how government policy favors the development of a country in addition to the roles of the national political situation and the opportunities offered by technologies.

Emperor Menelik II built the first water pipe to his palace in 1905; Emperor Haile Selassie (in power from 1930-1974) introduced the treatment plant to Addis Ababa and constructed two water supply dams and many hydropower dams in his era. Mengistu Hailemariam's military regime (1974-1991) succeeded in reforming institutions and putting plans. Here, we cannot judge the regime as being passive to the development of water resources; rather, a positive outlook toward the development of the sector was observed in the establishment of various authorities and the first water technology institute at Arba Minch for training water resources professionals. EPRDF, the ruling government since 1991, has had a better position in water resources development, particularly paying attention to the rural water supply and sanitation. Although much remains to be accomplished in the sector in terms of both water and sanitation, the effort observed in the last two decades is appreciable. The country has produced a number of policies and strategies, regulations and periodic development plans and has harmonized and aligned documents and approaches to bring about an impact on the sector development.

The lessons learned from the evolution of the CMP are the importance of designing implementation approaches based on national or regional policies, testing them on small scale, and if proved successful, their wider adoption. This development process may take time and, therefore, it is important that the partner organizations are committed and patient enough to wait for changes that may take some time to happen. In this regard, the route that CMP has emerged from RWSEP through different implemention style can be good example.

The CMP approach of involving national and regional governments and the user community has resulted in political will, increased the annual implementation rate, and substantially reduced the unit costs of water points. CMPs have several elements that make community management more successful: capacity building at different levels, new financing and procurement regulations, empowerment of local users as Chambers (1983) pointed out by making the last first, gender sensitive user representation, and exploitation of local banks as encouraged by the national policy. This article has presented the evolution of the CMP approach to the readers. Therefore, we recommend a further study to show how successfully the elements discussed above have been contributing for service sustainability and how it differs from other implementation approaches in the rural water supply of Ethiopia.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Scholarships from Maa- ja vesitekniikan tuki ry and CIMO in Finland as well as the logistical support from the COWASH project in Ethiopia for fieldwork are gratefully acknowledged.

References

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, *35*, 216-224.

Arsano, Y. (2007). Ethiopia and the Nile: Dilemmas of national and regional hydro-politics (PhD thesis). ETH Zurich, Switzerland.

Assefa, T. (2008). Digest of *Ethiopia's national policies, strategies and programs.* Addis Ababa, Ethiopia: African Books Collective.

Borrego, M., Douglas, E. P., & Amelink, C. T. (2009). Quantitative, qualitative, and mixed research methods in engineering education. *Journal of Engineering Education*, *98*, 53-66.

Cairncross, S. (1992). *Sanitation and water supply: Practical lessons from the decade*. London, England: London School of Hygiene and Tropical Medicine.*Water Alternatives*, *7*,342-366.

Chambers, R. (1983). *Rural development: Putting the last first*. Essex, UK: Longman.

Christmas, J., & de Rooy, C. (1991). The decade and beyond: at a glance. *Water International, 16*(3), 127-134.

Cleaver, F. (1998). Choice, complexity, and change: Gendered livelihoods and the management of water. *Agriculture and Human Values*, *15*, 293-299.

Cleaver, F., & Nyatsambo, R. (2011). Gender and integrated water resource management. In R.Q. Grafton & K. Hussey (Eds.), *Water resources planning and management* (pp. 311-330). Cambridge, UK: Cambridge University Press.

Cleaver, F., & Toner, A. (2006). The evolution of community water governance in Uchira, Tanzania: The implications for equality of access, sustainability and effectiveness. *Natural Resources Forum*, *30*, 207-218.

Community-Led Accelerated WASH. (2013a). *CMP Ethiopia*. Retrieved from http://www.cmpethiopia.org/page/146

Community-Led Accelerated WASH. (2013b). *Support to Community-Led Accelerated WaSH in Ethiopia: Revised project document for COWASH*. Retrieved from http://www.cmpethiopia.org/media/cowash_revised_project_document_sep_30_2013

Community-Led Accelerated WASH. (2014, September). *CMP regions*. Retrieved from http://www.cmpethiopia.org/page/146

Cornwall, A., & Gaventa, J. (2000). From users and choosers to makers and shapers repositioning participation in social policy1. *IDS Bulletin*, *31*(4), 50-62.

Cornwall, A. (2002). Locating citizen participation. *IDS Bulletin*, *33*(2), i-x.

Cornwall, A., & Gaventa, J. (2001). *From users and choosers to makers and shakers: Repositioning participation in social policy* (IDS Working Paper No. 127). Brighton, UK

Dewan, C., Buisson, M. C., & Mukherji, A. (2014). The imposition of participation? The case of participatory water management in coastal Bangladesh. *Water Alternatives, 7*(2), 342-366.

Doe, S. R., & Khan, M. S. (2004). The boundaries and limits of community management: Lessons from the water sector in Ghana. *Community Development Journal*, *39*, 360-371.

Feachem, R. G. (1980). Community participation in appropriate water supply and sanitation technologies: The mythology for the decade. *Proceedings of the Royal Society of London. Series B. Biological Sciences*, *209*, 15-29.

Finland, M. O. (Director). (2012). *Community managed project: Financing WASH service through the communities* [Motion picture]. Retrieved from http://www.cmpethiopia.org/page/177

FinnWASH-BG. (2013, October). Rural Water Supply, Sanitation and Hygiene Programme Annual Report of 2012 – 2013, FinnWASH-BG, Assosa, Ethiopia.

FinnWASH-BG. (2014). Rural Water Supply, Sanitation and Hygiene Programme Annual Report of 2012 – 2013, FinnWASH-BG, Assosa, Ethiopia.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, *12*, 219-245.

Gnogno, P. (1984). *Atse Minilik* [Amharic]. Addis Ababa, Ethiopia: Emai Printing Press.

Grover, B. (1991). Evolving international collaborative arrangements for water supply and sanitation. *Water International*, *16*, 145-152.

Harvey, P., & Reed, A. (2007). Community-managed water supplies in Africa: Sustainable or dispensable? *Community Development Journal*, *42*, 365-378.

International Drinking Water Supply and Sanitation Decade. (n.d.). *International drinking water supply and sanitation decade*. Retrieved from http://www.who.int/water_sanitation_health/idwssd.pdf

Kalbermatten, J. M. (1991). Water and sanitation for all, will it become reality or remain a dream? *Water International*, *16*, 121-126. doi:10.1080/02508069108686104

Kloos, H., & Legesse, W. (2010). *Water resources management in Ethiopia: implications for the Nile basin*. New York, NY: Cambria Press.

Manor, J. (2004). User committees: A potentially damaging second wave of decentralisation? *The European Journal of Development Research*, *16*, 192-213.

Mebrahtu, M. (2012). *Assessment of the CMP approach in developing rural water supply schemes, Benishangul-Gumuz Region* (Master's thesis). Addis Ababa University, Ethiopia. Retrieved from http://www.cmpethiopia.org/page/500

Ministry of Water & Energy. (2014, March 18). *Federal democratic republic of Ethiopia Ministry of Water and Energy*. Retrieved from http://www.mowr.gov.et/index.php?pagenum=1.2&;pagehgt=1080px

Mitiku, M. (2013). *Evaluation of the level of service rendered by functioning rural water supply schemes: Case of Farta Woreda* (Master's thesis). Addis Ababa University, Ethiopia. Retrieved from http://www.cmpethiopia.org/page/500

Ministry of Health. (2005). *National hygiene* and *sanitation strategy*. Addis Ababa, Ethiopia: Emai Printing Press. Retrived from www.cmpethiopia.org/media/national_hygiene_and_sanitation_strategy_for_ethiopia_oct_2005

Moriarty, T. S. (2003). *Community water, community management: From system to service in rural areas*. London, England: ITDG Publishing.

Ministry of Water Resources. (2001a). *Ethiopian water sector policy*. Addis Ababa, Ethiopia: Emai Printing Press. Retrieved from http://www.mowr.gov.et/index.php?pagenum=10&pagehgt=1000px

Ministry of Water Resources. (2001b). *Ethiopian water sector strategy.* Addis Ababa, Ethiopia: Emai Printing Press. Retrieved from http://www.mowr.gov.et/index.php?pagenum=10&pagehgt=1000px

Paris Declaration. (2005). *The Paris Declaration on aid effectiveness and the Accra Agenda for Action*. Retrieved from http://www.oecd.org/dac/effectiveness/34428351.pdf

Pineo, C. S., & Subrahmanyam, D. V. (1975). *Community water supply and excreta disposal situation in the developing countries*. Geneva, Switzerland: WHO.

Rouse, M. (2013). *Institutional governance and regulations: The essential elements* (2nd ed.). London, England: IWA.

Rural Water Supply and Environmental Program. (1998). *The rural water supply and environmental program in Amhara Region: Phase I completion report*. Bureau of Planning and Economic Development. Amhara Regional State, Ethiopia.

Rural Water Supply and Environmental Program. (2004). *The rural water supply and environmental program in Amhara Region: Phase II completion report*. Bureau of Planning and Economic Development. Amhara Regional State, Ethiopia.

Rural Water Supply and Environmental Program. (2007). *The rural water supply and environmental program in Amhara Region: Phase III completion report*. Bureau of Planning and Economic Development. Amhara Regional State, Ethiopia.

Rural Water Supply and Environmental Program. (2012). *The rural water supply and environmental program in Amhara Region: Phase IV completion report*. Bureau of Planning and Economic Development. Amhara Regional State, Ethiopia.

Sharma, N. (2012). *CMP in implementing rural water supply in Amhara Region* (Master's thesis). Tampere University of Technology, Finland. Retrieved from http://www.cmpethiopia.org/page/500

Shinn, D. H. (2013). *Historical dictionary of Ethiopia*. Lanham, MD: Scarecrow Press.

Sime, I. (1998). Addis Ababa water supply stage III: A project. *EACE Bulletin*, *1*(1). Retrieved from http://www.mediaethiopia.com/Engineering/addis_watersupply.htm

Suominen, A. (2001, July 6). *Sustainability in rural water supply: Mini Workshop Paper. Environmental support project component 3: Sustainability in rural water supply*. Addis Ababa, Ethiopia. Retrieved from http://www.ircwash.org/sites/default/files/824ET-17117.pdf

Suominen, A., & Urgessa, M. (2004, October). Community development fund approach in RWS financing. In Proceedings of 30th WEDC *International Conference: People-centered approaches to water and environmental sanitation* (pp. 315-318). Vientiane, Laos: PDR.

Tesfaye, Y. (2012). *A comparative study on Woreda managed and CMP rural water supply projects* (Master's thesis). Indira Gandhi Open University, Addis Ababa, Ethiopia. Retrieved from http://www.cmpethiopia.org/page/500.

United Nations. (1990a). *The New Delhi statement, global consultation on safe water and sanitation*. New Delhi, India: Author. Retrieved from http://www.ielrc.org/content/e9005.pdf

United Nations. (1990b). *Second United Nations Conference on the least developed countries*. Paris, France. Retrieved from http://www.un.org/en/development/devagenda/ldc.shtml

United Nations Children's Fund. (1990). *World declaration on the survival, protection and development of children*. New York, NY: Author. Retrieved from http://www.unicef.org/wsc/declare.htm

WASH Implementation Framework. (2013). *Federal democratic republic of Ethiopia the WaSH implementation framework*. Addis Ababa, Ethiopia. Retrieved from http://www.cmpethiopia.org/media/signed_wash_implementation_framework_scanned

Water and Sanitation Program. (2010, July). *Mainstreaming the community development fund financing mechanism: Final evaluation report*. WSP-Africa. Retrieved from http://www.cmpethiopia.org/media/mainstreaming_cdf_wb_research_paper

World Health Organization. (1987). *International drinking water supply and sanitation consultation*. Interlaken, Switzerland: Author. Retrieved from http://apps.who.int/iris/handle/10665/61515#athash.49ZgH7ul.dpuf

Author Biographies

Beshah M. Behailu holds an MSc in Water supply and Environmental Engineering from Arba Minch University (Ethiopia) in 2010. In his 11-year career he has served as practitioner engineer and academia in the area of water supply and sanitation. Now, he is a doctoral student at Tampere University of Technology with research focus of sustainable services of rural water supply.

Arto Suominen holds an MSc in Civil Engineering from the Tampere Technical University in 1979. Special areas of expertise are water supply and sanitation projects design and implementation, monitoring and evaluation, leadership, strategy and policy development, training, coordination and technical issues in WASH. Countries worked: Iraq, Kenya, Vietnam, Namibia, Nepal and Ethiopia. Currently (2015) leading Community-Led Accelerated WASH Project (COWASH) in Ethiopia.

Tapio S. Katko (Civ. Eng.) holds the UNESCO Chair in Sustainable Water Services at Tampere University of Technology. His career of 35 years covers 4 years abroad. He has authored or coauthored 36 monographs and many publications on water services evolution, management, institutions, policy and governance (www.cadwes.com).