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Harshi Gunawardana[1]
Dammika A Tantrigoda[2]
U Anura Kumara[3]

POST-CONFLICT ECONOMIC DEVELOPMENT: A WAY FORWARD

In times of persistent violent military conflicts and in post-conflict contexts, water resources and infrastructure are often destroyed or become inaccessible. This has been confirmed both in the literature and in practice. This research has shown effective water management is vital for mitigating new tensions over water resources. Otherwise it will be a major obstacle in the development of economy in post-conflict society. Early intervention in the water sector can help societies set the foundation for more equitable and sustainable water use and in turn support better economic recovery in post conflict areas.

A qualitative research approach with a fieldwork was applied in Northern Sri Lanka where an economic recovery deemed necessary at the end of the three-decade long civil war, opening up communities to reconstruction and economic rehabilitation. Semi-structured interviews and observations were applied to derive findings on current challenges in the water sector in post clearance areas. Main findings from this research lead to the conclusion that the lack of water supply and water sources are primary challenges for land users. They are not aware of sustainable land management (SLM) strategies to improve water use efficiency and productivity. The study proposes a framework to integrate SLM for post-conflict economic development.

JEL: O1; Q1

1. Introduction

According to the UN (United Nations), there are about 100 violent conflicts that have been suspended over the last ten years, with the consequences being a disrupted sustainable development and unsustainable forms of land use. The economic challenges faced by the parties after the end of the conflict are severe: land degradation, destroyed human and

[1] *Harshi Gunawardana (corresponding author), PhD Candidate, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Colombo, Sri Lanka, e-mail: phd6115fm2014019@sjp.ac.lk.*
[2] *Dammika A Tantrigoda (co-author), Senior Professor, Department of Physics University of Sri Jayewardenepura, Colombo, Sri Lanka, e-mail: dhammika@tantrigoda.net.*
[3] *U Anura Kumara (co-author), Dean, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Colombo, Sri Lanka, e-mail: uthumange@sjp.ac.lk.*

social capital, impossible access to livelihoods due to landmines and unexploded ordnance (UXO), loss of income and widespread poverty.

Recently, the recognition of the role of land in post-conflict contexts is attracting the attention of international practice, politics and scientific debates (Gbanie et al. 2015; Nackoney et al. 2014) but still little is known about the processes and outcomes of such events. Information about the level and degree of conflict-induced impacts on both land and environment serves as a guide to post-conflict economic recovery programmes. This is significant because 90% of civil conflicts between 1950 and 2000 ensued in countries with rich biodiversity, and 80% took place within biodiversity hotspot areas (Hanson et al., 2009).

Armed conflicts are among the most drastic shocks that can impact societies and thus land. Dead and casualties, both among those fighting and among civilians (Landmine Monitor, 2017), the internally displaced people fleeing from unsafe areas (Wanninayake, 2015), human rights abuses, and the obliteration of livelihoods (Justino, 2011) are some of the critical effects of conflict, and widespread literature exists assessing the causes and outcomes of conflicts for societies.

Whilst many scholarly works in the contexts have focused on investigating the impact of conflict on wildlife, others have investigated the effect of conflicts on forests (Ordway, 2015) and cultivation lands (Witmer & O'Loughlin, 2009) or where fighting affects natural ecosystems directly. Academics have used varied technologies in conflict and post-conflict research to understand ecosystem variations, forest cover and resource extraction (Gorsevski et al. 2013). Similarly, it is also important to examine what drives people's land management decisions and how land systems may evolve in the future and for identifying strategies to steer land systems towards desired outcomes.

Generally, it is believed that conflicts affect land management decisions but, research on how armed conflicts affect land management decisions and thus land use practices are scarce. This is unfortunate, considering that the few existing studies suggest that these effects can be drastic (Baumann & Kuemmerle, 2016), comprehensive and long-lasting (Baumann et al. 2015). Investigating how war affects water resources should also be a priority because armed conflicts, sadly, destroy water supply and contaminate water wells.

For example, in 2012, a Swiss-based demining agency reported that 2,214 groundwater wells have been cleared removing more than 42 antipersonnel mines (AP mines), 556 items of unexploded ordnance (UXO) and nearly 57,468 items of explosive remnants of war (ERW) in Vavuniya, Mannar and Mullaitivu districts in Sri Lanka facilitating 47,000 beneficiaries (Thoms, 2012). The researchers were informed by the Sri Lanka Regional Mine Action Office that well clearance is still being conducted in Sri Lanka.

With the recognition of the important role that land plays in conflict and post-conflict contexts, the paper examines the interventions of improving water productivity and water use efficiency in conflict-affected areas in Northern Sri Lanka.

We conducted a qualitative estimation of how conflict affects land management decision making in terms of water resources. Specifically, we sought to answer three interrelated research questions:

(1) Which water sources are predominantly affected by armed conflict?

(2) What are the challenges faced by residents living in Northern Sri Lanka in terms of access to sufficient water for domestic and industrial use?

(3) What are the mechanisms to improve water productivity and water use efficiency?

To address these questions, a qualitative research approach (informal interviews and focus group interviews) was applied to our case – Kilinochchi District. We then compiled a database incorporating information on access to water use for industrial and domestic use in Northern Sri Lanka before the war and after the resettlement. We then conducted a literature review on studies that established a relationship between sustainable land management (SLM) and water productivity. We synthesized the findings of these studies with regards to the post-conflict economic development, its proximate drivers, and the causal mechanisms to address the gaps of land and water resource management.

Primary data was collected from the local population involved in farming and secondary data was collected from the District Planning Secretariat. A comprehensive literature review complements this research. Based on these findings, a model was developed to improve water productivity and water use efficiency in the post-conflict land.

Continuous investments in water resource management in Northern Sri Lanka suggest a need for efficient and effective mechanisms to improve water capture, decrease erosion and increase agricultural output. Northern Province's unique biophysical variability provides the underlying conditions for abundant freshwater resources. However, deforestation due to agriculture expansion, fragile soils, and heavy seasonal rains makes the land vulnerable to soil erosion in the rainy season. During the dry season in Northern Sri Lanka, water scarcity and low water tables cause a rapid reduction in water levels affecting agricultural yields.

According to Sivakumar (2018), preliminary calculations based on per capita water use for domestic needs, irrigation sector, industrial and commercial water show a trend of increasing demand. Despite the water resources (surface irrigation facilities as well as groundwater extraction facilities) established by the Government for economic and social well-being of the community, there is a significant deficit of water for domestic and agriculture purposes. Therefore, the importance of conservation and efficient management of available water resources should be addressed properly. There is increasing scientific evidence of the potential advantages of adopting SLM technologies to protect biodiversity and secure the quantity and quality of water resources.

Sustainable land management (SLM) represents a holistic approach to achieving long-term productive ecosystems by integrating biophysical, sociocultural and economic needs and values. SLM can be referred to 'optimal use of land resources for the benefit of present and future generations' (Davies et al., 2015). SLM is a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management (including input and output externalities) to meet rising food and fiber demands while sustaining ecosystem services and livelihoods (Smyth and Dumanski, 1993). SLM encompasses soil, water and vegetation conservation measures, and is based on the key principles of enhancing the productivity and protection of natural resources, while being economically viable and socially acceptable (Schwilch et al., 2014).

The policy makers and residents who live in war torn areas means that they should be responsible to maintain the quality of land and water, because, it is affected by landmines and UXO, habitat destruction, pollution, loss of biodiversity, over-exploitation and degradation of natural resources during explosions.

War is seldom good for anything, especially protracted conflicts like the one in Sri Lanka, which dragged on for over three decades and claimed between 80,000 to 100,000 lives. According to a survey undertaken by Wanninayake (2015), by the end of war 2009, there were more than one million people were displaced in Sri Lanka, while the same number of people was living as refugees and asylum seekers abroad. The resettlement started from 2010 when the landmine clearance in residential areas was completed. At the time of writing this paper, humanitarian deminers have cleared an area of 2,325Km2 has been cleared removing and destroying 735,444 AP mines, 2,073 antitank mines and 556,385 items of UXO. The remaining hazardous area for mine clearance is 27.1Km2 in the country. The contamination of these ERW has similarly affected land and water resources.

It is now a realistic prospect that one of the worst affected countries in the world could be the next to be declared mine-free having Sri Lanka acceded to the Ottawa Treaty (Mine Ban Treaty contributes to the shift in norms away from use, production and trade of anti-personnel mines) on 13 December 2017. Sri Lanka also deposited its instrument of accession to the Convention on Cluster Munitions on 1 March 2018, becoming the 103rd State Party (Landmine Monitor, 2017). By joining the Convention Sri Lanka will undertake to destroy all stockpiled AP mines it owns or that are under its jurisdiction or control, not later than four years after the acceding to this treaty (Landmine Monitor, 2017). The accession has wider implications for the rebuilding and socio-economic development of a country years after the end of the conflict. Therefore, it is timely to introduce SLM as a major modernizing factor to be considered under the post-conflict development strategy. The northern province is referred as the "dry zone" of Sri Lanka, a largely agriculture-based area and home to about a third of Sri Lanka's population of about 21 million (Asian Development Bank, 2017). The majority of Northern inhabitants are depending on rice farming; cash crops, livestock and fisheries are pivotal sub-sectors. After the resettlement, people were provided with food aid for nearly six months until ERW was removed off their farmlands and related livelihood areas.

Kilinochchi District being an agricultural district, largely depends on the irrigation network for its development and it has 7 river basins and there are 4 major tanks and 5 medium tanks connected to conserve rainwater. The climatic conditions of the district are dry and humid with an average annual rainfall of 3533.40mm. It receives rainfall in one monsoon season each year. The weather is extremely variable and droughts are common; household incomes are around 10% lower in the dry zone than in other parts of the country (Asian Development Bank, 2017). Gradually, this situation will be worsened due to the rapid population growth and further rainfall diminishes due to global warming and climate change.

Water is scarce and not totally sufficient to supply water to the entire cultivation area in the name of economic growth. Water for agriculture and human use are alternatively withdrawn from tube wells and dug wells too. In the context of sustainable land management, this study focuses on how to improve water productivity in areas where humanitarian demining operations have been conducted. SLM means technologies which farmers implement in their fields to manage crop yields with available water. Various scholars have shown that application of SLM has managed to optimize the use of storage infrastructure and minimize the number of new dams that need to be built.

According to the findings, some farmers have been provided with tanks to collect rainwater and awareness programmes on rainwater harvesting and groundwater recharge by UN-Habitat and Coca Cola Company in Punnaineeravi GN division and Kandavali DS Division in Killinochchi district. Typically, these measures have been used in early resettlement period. However, only five percent of farmers in the interview adopts such SLM technologies.

The study reveals that excessive concentrations of iron and nitrates, from agrochemicals and fertilizers have deteriorated the soil over the past few years. The focused group farmers reported that the supplement of excessive synthetic chemicals and fertilizers to crops replaced the water shortages and increased the yield of a particular crop or set of crops, which are genetically modified.

81% of the study participants informed that water sources were microbiologically unsuitable for drinking in Kilinochchi district. Most people consume raw water from these unacceptable water sources. It was also found that the surrounding environment is highly conducive for contamination of well water in the study area. The study participants had poor knowledge on transmission of bacteria through water and the prevention of water-borne diseases.

This background paper draws on water productivity components of SLM and how it can be integrated and scaled up in the target area. Scaling up generally focuses on expanding, replicating, adapting and informing policies, programs or projects in geographic space and over time to reach a greater number of people. Institutional changes – both within the public and the private sector as well as initiated by policy makers – are needed to create an enabling environment that can promote scaling out via the adoption of SLM practices from person to person, and community to community.

The remainder of the article is structured as follows. Section 2 provides the approaches towards data collection for qualitative evidences on the water management issues in the selected area. There is then a discussion on key elements of improved water productivity and water use efficiency through SLM policies and practices adopted institutionally identified from the literature. The final section concludes with a guiding framework for sustainable water use and economic development in post-conflict settings in the future.

2. Methodology

2.1. Description of the Study Area

The study was carried out in Kilinochchi District in Northern Province of Sri Lanka, an area about the size of 1237km2 and inland water covers an area of 444.3Km2. This district reports the highest landmine and ERW contamination subsequent to the war. While mine clearance is ongoing, as at 31 December 2017, Regional Mine Action Officer of Northern Province reports a total of 354,614 landmines and ERW were recovered from this district and approximately 584 km2 of contaminated area has been cleared and released for resettlement. The mine clearance is still going on in close proximity to livelihood areas in some parts of this district. Therefore, the study results can be generalized for any post conflict setting as the extreme case has been considered in this research.

As of end 2017, total population of the district 124,000 people (Department of Census and Statistics Sri Lanka, 2018). Kilinochchi district is predominantly an agriculture economy depending mainly on tanks and irrigation works. The secondary livelihood is based on fishing, livestock, industrial activities, government and private establishments. The estimates based on the Household Income and Expenditure Survey (HIES) conducted by the Census and Statistics Department of Sri Lanka, Kilinochchi district is 51% below the average monthly income (average monthly income LKR 54,999) of Sri Lanka. Therefore, SLM implications, particularly in this district, will be beneficial for the communities to boost the economy and the impact of SLM integration will be evident and be simply measurable for future studies.

2.2. Data Collection Methods

The research was carried out for 55 days in March-April 2018 with qualitative data collection that included observations of 45 community wells and irrigation sites and 35 semi-structured interviews and focus group discussions with farmer associations, Rural Development Societies, community-based organizations, NGOs and government stakeholders. Review of existing literature on the SLM model, influence of post-conflict conditions, measures of sustainability and rural water supply set the context of the research and identified areas for further study. Use of the statistical handbook of District Planning Secretariat, reports of the Agriculture Department, information management system for mine action (IMSMA) database of the Regional Mine Action Office provided a vast source of data specific to the region with which to triangulate collected data. Literature sources that examined the interconnectedness of sustainable land management in post-conflict conditions were limited at the time of the study.

2.3. Data Analysis

Data collected through semi-structured interviews, field observations and focus group discussion were analyzed thematically through a content analysis technique. The descriptive analysis of data helped to capture the demographics of the people involved in the study, their water use and water saving strategies during normal day-to-day life and agriculture.

3. Improved Water Productivity and Water Use Efficiency

Water use efficiency and productivity directly contribute to increase production from the land. In dry zones of the world, water is the most common limiting factor in food production due to a mixture of scarcity, and extreme variability, long dry seasons and droughts. Water scarcity and lack of access to water for consumption and productive uses is a major constraint to enhancing livelihoods in rural areas (Castillo et al., 2007; Faurès & Santini, 2008).

Water productivity means growing more food or gaining more benefits with less water. Commonly it is reduced to the economic value produced per amount of water consumed. This is done by reducing high water loss through runoff and unperceived evaporation from unprotected soil, harvesting water, improving infiltration, maximising water storage – as well as by upgrading irrigation and managing surplus water.

The top priority is to improve water use efficiency in rainfed agriculture; here lies the greatest potential for improved yields with all the associated benefits. Conveyance and distribution efficiency are key water-saving strategies for irrigated agriculture (Gurtner et al. 2011). This is done through well maintained, lined canals and piping systems. The farmers practice to use low-pressure sprinkler irrigation during the night or early morning, to reduce evaporation losses.

Oweis and Hachum (2001) state that spreading limited irrigation water over a larger area allows gaining considerably higher total crop yields and water use efficiency compared to using water for full irrigation on a smaller area. Supplementary irrigation is a key strategy for providing water during no-rain periods, at water-stress sensitivity stages in plant growth.

A cost-benefit study undertaken by Fox et al. (2005) discovered that maize-tomato cropping systems using supplementary irrigation reached annual net profits of US$ 73 in Burkina Faso and US$ 390 in Kenya per hectare. In comparison, traditional systems showed net income losses of US$ 165 and US$ 221, respectively.

McIntyre (2009) mentions that water harvesting and improved water storage for irrigation during times of surplus is useful to water stress times. Rainwater harvesting can be made as small dams and other storage facilities, which are combined with community-level water management, can be introduced as alternatives to large-scale irrigation projects.

According to Studer (2009), integrated irrigation management is a wider concept going beyond technical aspects to coordinate water management, maximised economic and social welfare, assured equitable access to water services, without harming the ecosystems. Based on results from a hydrological model and a household survey analysis presented by Schmidt and Zemadim (2015), investments in agricultural water management are vital to increasing agricultural productivity in degraded watersheds.

Access to Safe and Clean Water

In Northern Sri Lanka, deposits of landmines and ERW have contributed excessive levels of calcium in groundwater. Also, this results in high levels of heavy metal and high concentrations of fluoride. The study has found that majority participants are suffering from kidney stones due to the high dose of calcium, salt and mineral consist in drinking water, have given rise to dangers to human health. Therefore, it is important to find out effective as well as affordable means of providing safe drinking water.

In early resettlement period in 2012, deminers have worked in close cooperation with WATSAN (Water, Sanitation and Hygiene) organizations and National Water Supply and Drainage Board in Sri Lanka to follow on water purification in ERW-free wells. Deminers informed WATSAN of each well cleared on a regular basis to ensure that follow up purification can take place and encounter a freshwater source for the returnees.

However, focus group discussions derived that water purification is no longer followed up or practiced on a regular basis. In the selected area, 95.5% of the households do not know how to purify water at all, and of those that do, the most common method by far is to strain water from buckets, which offers little or no disinfection of disease-causing agents. Only 4% of household boil water for drinking. Families need to understand how to purify and store clean water to maintain a healthy lifestyle. The study suggests that WATSAN component should be reactive to purify water and conduct community awareness programmes to promote the use and consumption of clean water to improve health conditions.

Rain Water Harvesting

Rainwater Harvesting is commonly practiced by people in semi-arid areas with common seasonal droughts as in Egypt, Ethiopia, Tanzania, Niger, Somalia, Sudan and Uganda where rainwater is collected with various technologies to make it available for agricultural production or domestic purposes. Rainwater harvesting can be done through a collection of runoff water where infiltration is low, a storage system where water is accumulated for future use - in pits, ponds, tanks or dams. The water harvested can be used for home gardening watering of cereals, vegetables, fodder crops and trees but also to provide water for domestic and livestock use, and sometimes for fish ponds which benefits the community (Liniger et al., 2011).

The surface water in Kilinochchi is known to be saline therefore, a well-developed mechanism to store and harvest water for daily consumption is essential. Pipe-borne water is still sparse and there is a high demand on existing water storage methods. Domestic rainwater harvesting is a very effective and advantageous water management system which can be used in Kilinochchi district.

The Water and Drainage Board and UNHCR, through the Village Headman of each area, should organize community awareness programmes about the benefits and methods of rainwater harvesting. The stored rainwater will reduce the current use of saline water which may have negative impacts on the health of the communities. Further, rainwater harvesting will reduce the need to transport heavy loads of water over long distances and purchase of water in these areas.

In-situ rainwater conservation can be practiced by residents where rainfall water is captured and stored where it falls. This avoids water runoff and evaporation loss is minimised. Mulching, cover crops and contour tillage are promising agronomic measures for in-situ rainwater conservation. Micro-catchment is another method for individual farmers within farm field systems digging holes, pits, basins, bunds constructed to collect surface runoff from the vicinity of the cropped area. The farmer has to control both the catchment and the storage area.

Macro-catchments are designed to send more water for cultivation lands through gullies and streams during storm flood seasons. The farming community should build large earth canals, dams and ditches to store huge volumes of water. Farmers do not necessarily should have serious engineering skills to build small dams and ponds for the collection and storage of runoff from external land surfaces. Farmers can design furrows or channels below terraces banks.

The housewives should secure rainwater from rooftops for domestic use. Tiled roofs, or roofs sheeted with corrugated steel are recommended, to collect clean water. A systematic conveyance system consists of gutters or pipes to transport the rainwater falling on the rooftop to storage vessels. The storage tank should be constructed with an inert material such as reinforced cement, plastic, fiberglass, or stainless steel. During the north-east monsoon, each family might be able to collect over 10,000 litres of water. The residents should be provided with storage tanks to practice rooftop catchment.

Maximising Water Use

The residents in Kilinochchi district use tube wells and hand dug wells to receive water for domestic use and home gardening. People grow banana trees near water wells to apply human/animal bathed water to grow trees. A family may use at least 30 litres of water per day for cooking and washing etc. There is no system in place to convey and distribute kitchen wastewater for vegetables beds in home gardens. Wastewater emerging from the kitchen has high organic material from the food dishes as well as oil and grease from typical Northern Sri Lankan Tamil cooking.

Through the Community Liaison officers of NGOs, the community should be informed and educated to convey water used to wash fruits and vegetables in the kitchen to vegetable gardens through PVC pipes. The communities should avoid using soap mixed dish wash for plantation because it could imbalance the P^H level of the soil. Wastewater treatment is a complex exercise where communities need proper training from experts to recycle water. Generally, people in Kilinochchi seen to bath livestock from water wells. The animal bathed water can be poured to banana, neem, jack and coconut plants.

Supplementary Irrigation

Supplementary irrigation by complementing rain during periods of water deficits, at water-stress critical periods of the crop growth cycle, in order to stabilize and improve yield quantity and quality. Supplementary irrigation is a key feature, still underused, for unlocking rainfed yield potential and water productivity and water use efficiency by a temporary and discontinuous irrigation regime.

Yi et al. (2011) have read that for most of the cultivated species, legumes, sunflowers and some tree crops having a dense and deep rooting system the stages of maximum sensitivity to water stress are those from pre-flowering to fruit setting and cellular extension of fruits.

In extremely sunny dry seasons in Kilinochchi during the February-September period, an irrigation immediately after sowing is decisive in favouring a rapid crop emergence, an ideal plant density and satisfactory yields. In this connection, the experimental data obtained in southern Italy by Caliandro & Boari (1996), in dry months, stress that one irrigation immediately after sowing resulted in a grain yield increase of 132% whereas irrigations only at the booting stage or at sowing and during the booting stage caused yield increases, respectively 146%.

In dry years, one or two irrigations to broad bean and pea in flowering to seed enlargement stages, result in significant increases of yield quantity and quality. Under optimal soil moisture conditions, for sunflower, one irrigation in the period between flower bud appearance and flowering results in significant yield increases (Caliandro & Boari, 1996).

The optimal soil moisture can be achieved by applying compost fertilizer and one irrigation only is an ideal opportunity to grow sunflowers in Kilinochchi.

The surface methods (flooding, surface runoff and furrow irrigation) and sprinkling are common strategies for supplementary irrigation. The surface methods can be applied in Kilinochchi because the land is flat and does not require high capital for levelling and water distribution; sprinkler irrigation performed by different machines is the best for supplementary irrigation and can be used under all soil types; both groups of methods can be used for legumes, herbaceous and other tree crops. Among the sprinkler irrigation machines, self-propelled guns; self- propelled sprinklers, skid-mounted sprinklers, center pivot sprinklers or linear move laterals are popular.

Deficit Irrigation

Deficit irrigation is spreading limited water over a larger area, irrigation aiming at optimizing water use efficiency can be practiced in environments where the rainfall regime is such thereby not fully satisfying the crop water requirements. This system helps to gain considerably higher total crop yields and water use efficiency compared to using water for full irrigation on a smaller area (Oweis and Hachum, 2001). The groundnut requires 331mm – 616mm water supply for three seasons a year (Dharmasena, 2013). Deficit irrigation is ideal for groundnut as it does not require a considerable volume of water.

Agronomic Water Management

Multiple cropping system is quite commonly practiced in home gardens for water sharing to save water. Thus, output per unit area increases with diverse returns to the growers. The farmers should be educated about best water resources cropping systems, multiple cropping system in well water home gardening and short-term crops (45 days) with less water.

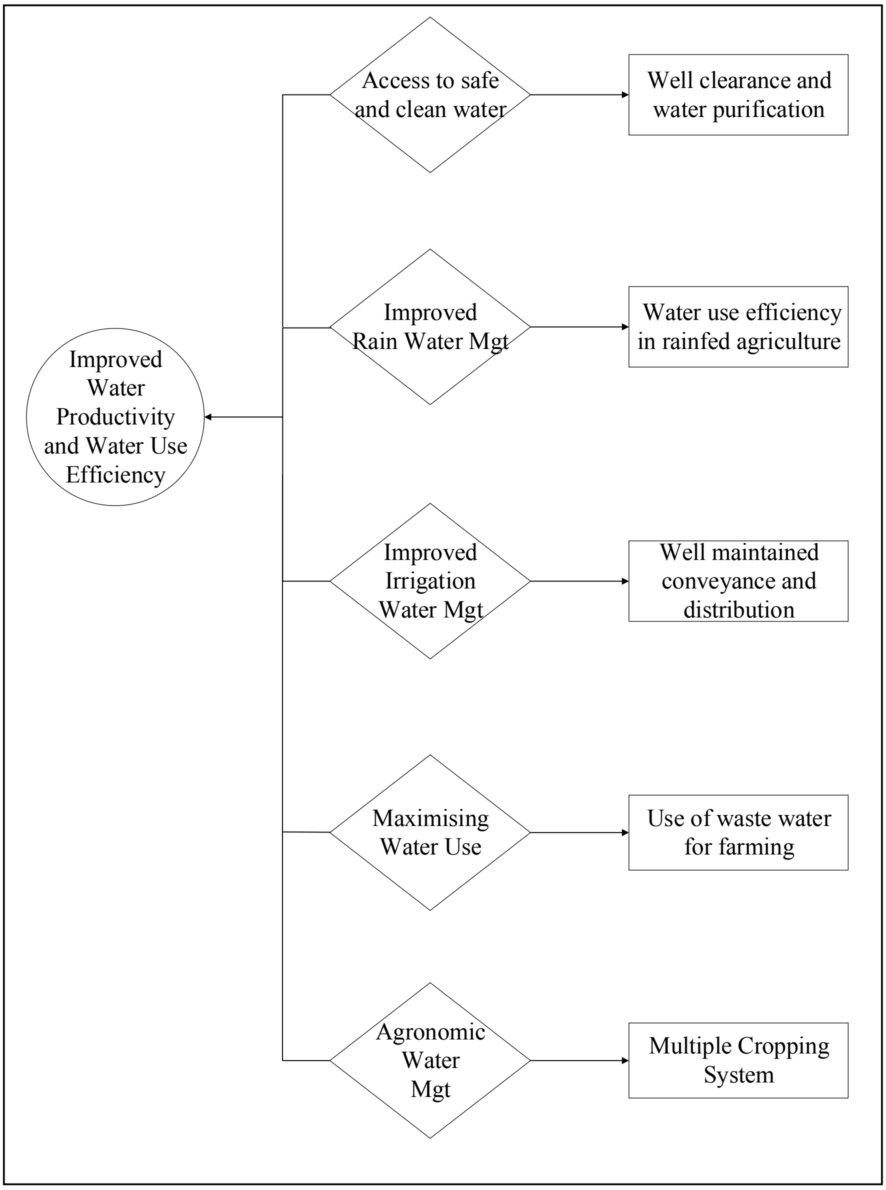
4. Proposed Framework for improved water productivity and water use efficiency

The study found that access to safe and clean water should be the priority to start SLM in post-conflict areas to ensure that people consume clean water to improve health conditions. Dumanski (1994) developed and propagated a framework for the evaluation of SLM that focusses on determining appropriate technologies in the respective water management system which should be (1) ecologically protective, (2) socially acceptable, (3) economically productive, (4) economically viable, and (5) effective in reducing risk. They explained water conservation technologies that aim to reduce negative impacts, such as salinity, physical impacts, or other chemical processes. Scientists and policy makers jointly can use the developed framework by Dumanski (1994) to evaluate potentials for enhancing sustainable water management.

In contrary, this paper focuses more on productivity as opposed to research only where the later involves more the researchers and policymakers while productivity involves more on the farmer as related to other key stakeholder including the policymakers and researchers. Hence, we present a general framework for how to improve water productivity and water use efficiency in complex areas. The development of this framework as illustrated in Figure 1 is based on the results of the literature review and observations of authors and discussions with land users in Kilinochchi district.

The framework will help increase knowledge about a practical solution to obtain clean water and prevent future kidney disease in the areas. The framework must be disseminated and explained to the land-users by the District Planning Secretariat and Northern Provincial Council. This paper argues that SLM decisions about the restoration, management, and protection of water resources have vital consequences for short-term stability, longer-term sustainable development, and successful post-conflict reconstruction.

Figure 1
The proposed Framework for improved water productivity and water use efficiency



7. Conclusions

Planned interventions in the water sector are integral to all stages of the post-conflict process, from the end of the conflict, through SLM. For the best possible use of water resources in water-scarce areas, there is a need for a comprehensive approach. This comprehensive approach includes a series of measures to be taken in a post-conflict setting: policy reforms and building of sound water institutions, careful planning of water use to achieve sustainable economic development.

Working cooperatively on crucial existential concerns may also bring people and communities together and build a norm of joint responsibility and multilateral cooperation. It is also true that these forms of cooperation may shift the focus from disconnected and short-term interactions into a continuous relationship that has scope for future larger gains. However, the positive spillover effect of this action is only possible if the involved stakeholders are prepared and willing to take advantage of it.

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