

## Water fast running out

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The World Water Day is celebrated annually on March 22 as a means of inspiring action to tackle the global water crisis and advocating for the sustainable management of freshwater resources. This year's theme for World Water Day is "Leaving no one behind". This is the essence of the commitment of the 2030 Agenda for Sustainable Development, which aims to allow all people in all countries to benefit from socio-economic development and to achieve the full realization of human rights, without discrimination of any kind.

Not fossil fuel, water will become the rarest commodity in the world in near future, which will create competitive demand between sectors such as domestic, irrigation and industrial use that would lead conflicts to individuals and regions as well as wars between countries, said Nimal Gunasena, Project Director of the Rehabilitation of Degraded Agricultural Lands Project (RDALP).

RDALP is a project implemented by the Food and Agriculture Organisation of the United Nations and Ministry of Mahaweli Development and Environment in the Central Highlands of Sri Lanka. The project aims to implement Sustainable Land Management (SLM) and protect soil and water resources and sustainable use of them.

Though Sri Lanka is considered as a country with plenty of water resources, we too have been facing stress on safe water because of climate change, population growth and water pollution. We have already faced the impacts of climate change and it has been a vicious cycle. The high intensity of rainfall and extended droughts have already become frequent experience. Even today stress for water demand is reported from the dry zone areas in Sri Lanka with the continuous failure of monsoon rains over two-three years.

### **Water conservation**

Sri Lanka has to change its water use pattern with these changing conditions and pay more attention to water conservation and the most efficient and productive use of water resources.

Water pollution is another serious issue that we have to pay immediate attention. Use of inorganic fertilizer is the main cause of soil and water pollution. The government has been encouraging chemical fertilizer use in paddy farming since the early 1970s. As a result of these motivations, fertilizer overuse and soil and water pollution has emerged as a serious threat. Inorganic fertiliser overuse is also reported in vegetable cultivation in central highlands.

According to statistics, in the Nuwara Eliya district fertilizer use is three times higher than the recommended amount while it is twice higher in Welimada in the vegetable cultivation. Inadequate fertilizer use causes low yield and low profitability. Overuse of chemical fertilizer causes accumulation in soil and toxic to plant, eutrophication of water bodies enhances global warming through production of Nitrogen gas, enhances susceptibility of plants to pests and diseases and enhance weed population. However, overuse of fertilizer does not contribute to high yield and high income but increase the cost of production. Triple Super Phosphate in the inorganic fertiliser is the most serious water and soil

polluter. Since most of the rivers start from central highlands it pollutes the water of all these rivers.

Water conservation is another important aspect that Sri Lanka has to immediately pay attention to. Water conservation in irrigation and domestic and industrial use is important. According to FAO estimates in 2011, more than 40% of the world's rural population in river basins are classified as water scarce. Irrigation is the main user of freshwater in the world, with an average of 70% of all water withdrawals. It reaches a peak of above 90% in many developing countries.

Countries have identified agriculture as a major sector of intervention in their nationally determined contributions to the mitigation of climate change, and many have placed water at the top of the list for envisaged adaptation measures. Sustainable and efficient water management practices in agriculture is a key component in addressing water scarcity. Flood irrigation system used in paddy farming too has to be changed and there are alternative methods that do not change yield.

Alternate Wetting and Drying (AWD) irrigation technique developed by the International Rice Research Institute (IRRI) is one method and in this system water use in producing rice can be cut down by around 25% and it is now being introduced to farmers across Asia. The technology can save up to 500 litres of water per kilogram of rice. In traditional methods, 2000 litres of water is required to produce one kilogram of rice.

FAO has been supporting Sri Lanka to address these issues related to water and ensure food security. We have launched several projects to introduce solutions and technologies. Site-specific Fertilizer Recommendation Project (SFRP) implemented with the Department of Agriculture aims to reduce water and soil pollution by reducing inorganic fertilizer usage. We introduced portable soil test kits that can be used in the field and test the nutrient contents in the soil and determine the exact need of the fertilizer.

### **Sustainable water supply**

This project was successfully implemented and achieved impressive results. With the success of the project and now the Ministry of Agriculture has decided to expand and promote site-specific fertilizer usage all over the country and provide soil test kits to regions.

Conservation of lands in the Central Highlands is crucial for sustainable water supply because most of the rivers are started here. The project has a holistic approach from review existing soil, land or SLM related policies, identify gaps and new policy

requirements, and propose better coordination mechanism in the implementation. Establishment of SLM demonstration models in tea, creating an innovative funding mechanism for SLM and establishment of information and knowledge sharing platform are other components of the project.

FAO has global experience and knowledge on supporting to address these issues related to water and land. We work with a large number of government agencies and NGOs as our stakeholders in addressing water and land-related issues in these projects.