

**Statement made by the Sri Lankan Delegate at the
In-session workshop referred to in FCCC/SBSTA/2013/3, paragraph 83.**

The Co-Chair, colleagues,

- I am Buddhi Marambe, representing the Sri Lanka delegation to the COP19 at this SBSTA meeting to discuss matters related to Agriculture.
- Let me first thank the two co-chairs for the opportunity given to express views on behalf of the Sri Lankan delegation on this very important subject area, agriculture and food security. The subject is close to our hearts, as the government and the people of Sri Lanka consider long term sustainable food security as our national security.
- Sri Lanka has a long standing history in adapting to the variability in climate, mainly the rainfall. The irrigation reservoir system established by the ancient rulers of Sri Lanka is the best example to show how cognizant was the Sri Lankan rulers many centuries ago on the variability observed in the most important climatic parameter for agriculture at that time, which is the rainfall. The Sri Lankans have enjoyed the benefit of such systems over the years supporting the cultivation of the major staple food crop, *i.e* rice, in two cultivating seasons per year. However, the changes in climate have taken place at a rapid pace with more extreme events are experienced in the recent past, challenging capacity of resources we have to ensure food security in years to come.
- The Co-Chair, it is with this background I present the case regarding Sri Lanka, under the three categories identified to make our submission at this important workshop.

(1) What are climate change impacts on agriculture observed in your country?

- Over the past few decades, Sri Lanka has experienced a slow but a continuous increase in the day and night temperatures, where the night temperature has increased significantly compared to the day temperature. Scientists have estimated that by 2080, the increase in average annual temperature of Sri Lanka would be in the range of 2.5-3.25 °C under the B2 scenario of climate change. These changes may lead to an increase in the Maha (wet) season irrigation water requirement for paddy by 13-23 % by 2050 compared to that of 1961-1990. The total annual rainfall has not shown any discernible trend except in few provinces, but high variability has been observed. Especially the onset of rainfall has changed, mainly delayed, affecting the overall agriculture production process and productivity.
- Rice is the major staple food crop in Sri Lanka which is highly dependent on the seasonal rainfall. Sri Lanka reached the cherished goal of self-sufficiency in rice in 2010, however, the two preceding years the total annual harvest below the requirement owing to a severe drought and subsequent flood. This indicates how vulnerable the rice crop is to

changes in the climate. The situation is the same for other food crops as well. The total crop losses of rice due to climate change (extreme events) have been estimated to be 10-15% in general but could end up with a total crop loss as well. Future projections on coconut yield suggest that production after 2040 may not be sufficient to cater to local consumption. Scientists have also predicted that a reduction in the monthly rainfall by 100 mm could reduce productivity by 30-80 kilograms of 'made' tea per hectare, thus impacting the country's exports.

- The losses due to climate change in other crops have not been estimated yet. However, due to a marked increase in night temperature in the regions where potato is cultivated in Sri Lanka, scientists fear that the required diurnal temperature variation of 8 °C may not be available for the crop in the future in order for the maximum production of potato.
- The impact of climate change on animal production in Sri Lanka, too, has not been estimated scientifically to-date. However, scientists have reported that heat stress would adversely affect the reproductive process of cattle.

(2) What experience does your country have with practices and approaches for dealing with adaptation of agriculture to climate change impacts?

The Co-Chair, I will first present the practices adopted by Sri Lankan farmers in adapting to climate change and then move on to the approaches.

Practices:

- Sri Lankan farmers have adopted a variety of adaptation measures to cope with the variability and change in climate Change as listed below.
 - i. Opting for climate resilient crops (more drought tolerant crops such as Maize, cowpea and mungbean in the uplands) and short age varieties (especially in the case of rice when onset of rainfall has been delayed)
 - ii. In the case of rice, the crop establishment method in some parts of the country is gradually changing from more water consuming wet-seeded rice to water-saving dry-seeded rice.
 - iii. Water saving techniques such a micro irrigation technologies been used in upland crop cultivation
 - iv. Incorporation of animals in the production systems has been seen any many parts of the country (which had been an age-old practice) as a method of building resilience in the system as Sri Lankan farming community is aware that animals are more climate resilient than the annual crops. Sri Lankan farmers have identified this as one of the best survival mechanisms under variable and changing climate.

Approaches:

- The Co-Chair, Ministry of Environment and Renewable Energy of Sri Lanka, the focal point for implementing the UNFCCC, has established two national experts committees on Climate Change Adaptation and Mitigation. I represent the Sri Lanka delegation at this meeting as the Chairman of the National Climate Change Adaptation Committee.
- The government of Sri Lanka, with the intervention of the Ministry of Environment and Renewable Energy of Sri Lanka, has developed the National Climate Change Policy in 2012 and National Climate Change Adaptation Strategy with due consideration being given to agriculture and food security of the country. The Ministry is currently in the process of developing the National Climate Adaptation Action Plan on a sectoral basis, and Agriculture has been given the priority in this exercise.

(3) What experience does your country have with the application of scientific knowledge for enhancing the adaptation in agriculture while promoting productivity and taking into account co-benefits?

- The Co-Chair, scientists and academia of Sri Lanka have been working relentlessly see how scientific knowledge could be best used in developing the capacity of the Sri Lanka farmers to adapt to the climate change. Given the limited time frame, I would inform this audience only few such attempts made in the recent past.
 - i. The onset of the seasonal rainfall has been delayed in many instances during the past few decades. Understanding the significance of forecasting the seasonal rainfall to support the agriculture production systems of the country, a project on Seasonal Climate Forecasting has been initiated with the assistance of the Commonwealth Scientific and Industrial Research Organization (CSIRO) in Australia where the University Academia and researchers in different government institutions have joined hands to materialize this. The groups of researchers are also working on low-regret crop production model together with the intended probabilistic forecasts to enable farmers to improve their productivity.
 - ii. Research carried out looking at the vulnerability of Homegardens in Sri Lanka to climate change and its impact on Food Security have identified Crop-Animal Integration at Home garden level as the best option in the field of Agriculture for adapting to climate change to ensure food security of households.
 - iii. The Sri Lanka Department of Agriculture has developed an ultra-short age rice variety, where the farmers would be able to harvest the crop in just 55 days after sowing, would add to the strategies used by Sri Lankan farmers to adapt to climate change.
 - iv. The Sri Lanka Department of Agriculture is currently in the process of developing drought tolerant varieties to adapt to climate change.
 - v. It is important to note at this stage that, despite all these efforts, Sri Lankan scientists are also giving due consideration to the wealth of traditional knowledge available with

the Sri Lankan farming community to design appropriate adaptation strategies to climate change in the field of agriculture.

- The Co-Chair, colleagues, this is a summary version of the activities taking place in Sri Lanka in the field of Agriculture and food security under variable and changing climate.

Professor Buddhi Marambe

Member of the Sri Lanka delegation to COP 19/SBSTA 39