Dr. Nimal Dissanayake said. “But only one year ago six countries have fallen under that category, Australia, China, India, the United States, France, and Brazil.”

Lanka is one of the few countries which have achieved the daunting task of self-sufficiency in rice. Although we use imported rice only 5% of our rice needs in the future, we are already producing high yielding varieties, new techniques of cultivation and the introduction of non-caloric fertilizers have increased the nation’s rice production. He added that in the next few years it will be impossible to import rice from the other countries.

There are more than six billion people in the world and more than half that number are hungry. We must ensure our own food is sustainable and consumed in Asia. China, India, Thailand, Bangladesh and Indonesia are the biggest producers and the production and consumption of a country like China or India it is different stages and if then in a crisis in those countries there is no place to buy rice,” he added.

“Although we are self-sufficient, we have to import rice sometimes especially in times of drought. Since we do not possess storage facilities we at risk of losing our sustainability at adverse weather conditions have been experiencing. Even this is a perception by middle eastern nations and if this has an adverse effect on the stop what can we do? If we lose 30% what can we do?” he said. “If there is a sudden drop in our production due to an extenuating factor we will be in deep trouble. We have identified salt, and though the climate will be moderate we have been working on salinity and drought resistant varieties and there have been notable successes,” he added.

Dr. Dissanayake added that it has become increasingly difficult to cope even a paltry amount of 10000 tonnes rice that cultivation it many countries have fallen victim to the effects of changing weather conditions. “But in the case of Sri Lanka, because of a sudden flood, Mawella, another example for the sudden weather change pattern which is a feature of climate change, we could not get affected.”

Directly affected by climate change

Due to the 4400 hectares used for paddy cultivation, 35% of the last year water from major irrigation schemes watered to more than 500 hectares and these farm birds have an assured water supply whereas 35% are under minor irrigation schemes (under 100 hectares), while another 35% are under rainfed conditions. “Then flood does not necessarily mean that we are in constant danger of drought as we have farming in the past the water has been unpredictable, while in the last December and January many paddy cultivations were destroyed in North Central,” he said.

Developing drought resistant varieties

Climate change has caused a lot of problems in the weather patterns and caused erratic fluctuations of weather. There are 46 agro ecological zones in the country and each region has a special cultivation pattern, according to which the farming patterns of each area are formed. “The rise in temperature, the fluctuation of rainfall is a major issue, in the past there was a bipolar rain pattern, a lot of rain in the dry season and less in the wet season. But there are farmers who have adapted to that method that time these patterns have become unpredictable the farmers are facing many difficulties,” he said. “The weather is subject to changes like everything else. For example the average temperature has gone up by around 1% in the last 50 years so and the rainfall has gone down a bit but the farmers have time to adapt and change the farming cycle according. But the real danger of climate change is that there is an unpredictable fluctuation in weather. Rain falls in times which are usually considered as dry periods and vice versa,” he added.

In the recent past, there has been a marked increase in the average temperature during flow, and intensity periods and rainfall is 15 degrees paddy will not be properly harkened demanding the harvest. “In decreasing the harvest, the high temperature at night would photoperiodization during the day is also triggering the production during the day such as Aerobic rice is a new concept of growing rice, it is high-yielding rice grown in non-puddled soils and experiments show that it needs 50% less water than the normal varieties,” he said. And unlike the photosynthesis mechanism of the rice plant it is not very efficient. “There are two mechanisms, one is C4 and the other is C3. C4, grass like maize and sorghum have the C4 which is like a diesel engine, but unfortunately rice has C3 which is less efficient. Researchers are working on introducing C4 varieties in rice, but it is difficult task, like an engine over heat,” he added.

There are two ways of dealing with the drought Dr. Dissanayake said. One is to avoid the drought by using short term maturing varieties while the other is to create varieties that are drought resistant.

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