

# SRI LANKA



Photo Credit - Angajan Ramanathan

## Climate & Food Security Monitoring Bulletin Maha Season 2020/2021

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**Guidance:** State Ministry of National Security, and Disaster Management

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## Key Highlights and Recommendations

Considerable rainfall distribution was observed during the North-East monsoon period and meteorological observation shows that above-normal rainfall in the northern region. The harvest of paddy and other food crops in “Maha” cropping season 2020/2021 was above-average compared to the past few years, and rice production will be sufficient for 10 months. Major reservoir storage levels are at 68 percent of their capacity at present whilst medium are at above 75 percent, which is very conducive for good “Yala” cropping season.

Current global climate outlooks for Pacific and Indian Oceans are showing neutral conditions of El-Nino/La-Nina condition and Indian Ocean Dipole condition from April to August, which are known to be influencing factors of the monsoon rains over Sri Lanka, indicates that there will be no major difference to average rainfall during this season. Meanwhile, anticipated pre-monsoon disturbances during May could result in some flooding in low lying areas of the South-Western region, while favourable for water storage in Dry & Intermediate zones.

### Water availability and supply

At the end of April the countrywide water storage of major and medium tanks storage which is well above the average storage compared to the water storage condition at the start of Yala season in an average year, mainly owing to the water management practices implemented by the Irrigation Department and water yield gained during the last Maha cropping season.

- ◆ Irrigation Department is planning to continue full extent cultivation for the next “Yala” Season in Major and Medium Irrigation schemes,
- ◆ It is recommended to promote water-saving technologies and the cultivation of Other Field Crops (OFC) on feasible lands, where the drainage is conducive for such crops. Around 50,000 acres throughout the Island have been selected for OFC cultivations in this season,
- ◆ Water-saving methodologies and farming practices such as *Bethma, Staggered Water Issues, and Dry Ploughing* are recommended and will be implemented wherever feasible.

### Agriculture activities in the Yala cropping season

- ◆ Use incipient rains in monsoon season for land preparation, wherever possible, rather than waiting for tanks are getting filled with the inflow of streams or diversions: Plan for 3½ months of maturity age paddy varieties for this Yala season and establish them in the fields during the period of the second half of April.
- ◆ Longer irrigation intervals are to be adapted as appropriate by considering the evaporative demand of the atmosphere and intermittent rains that may experience during the growth period of the rice crop;
- ◆ Cultivation under minor irrigation tanks is to be well planned after careful examination of available storage of respective tanks, in consultation with the officials of the Department of Agrarian Development;
- ◆ If the water storage of minor tanks is not highly satisfactory, opt for 3 months of maturity paddy varieties. Rainfed paddy cultivation in Wet and Intermediate zones may adapt customary practices of respective areas as the usual rhythm of South-West monsoon rains are likely to be experienced.

### Health and Food Security

The pre-period of the South-West monsoon might be potential for flooding in Western and Southern areas might be challenging for effective response operation, as the country already experiencing third wave of COVID outbreak from mid-April onwards and current trend indicates it will continue in next three months and beyond;

- ◆ In this context, the Ministry of Health advises to adhere to health guidelines, while media agencies are requested to support in promoting the guidelines in coordination with the Government Information Center;
- ◆ Promote intake of different nutritious food for communities in the plantation sector, poor and marginalized families around the country including women and people with disabilities as well as feeding practices for infants and children.

### Planning and budgeting recommendations

- ◆ Provide adequate budget allocations for seeds (paddy and other crops) and provisions for agriculture inputs such as fertilizer and agriculture equipment etc.;
- ◆ Provide soft loans and fund facilities for vulnerable smallholder farmers and other micro to medium scale entrepreneurs to enable stable economic options;
- ◆ Ensure adequate budgetary provisions for suitable Crop Insurance Schemes as a risk transfer mechanism in agriculture in a changing climate trends;
- ◆ Create income-generating opportunities for labourers and daily wage earners in tourism, hotels and other industries heavily impacted by the COVID outbreak.

## Summary

Wet conditions prevailed during December 2020 and January 2021 over the country, however, dry conditions were also experienced from February to April 2021 in many parts of the country. A considerable amount of rainfall was received across the country during the North-East monsoon (December 2020 to February 2021), however, it was less in the central areas compared to the long-term average. The DMC, NDRSC, Military, and Public Administrative agencies implemented a special preparedness programme which was supported by WFP and other agencies during October and November to prepare for the North-East monsoon, however only minor flooding was experienced in addition to the havoc created by cyclone “Burevi” in the northern region.

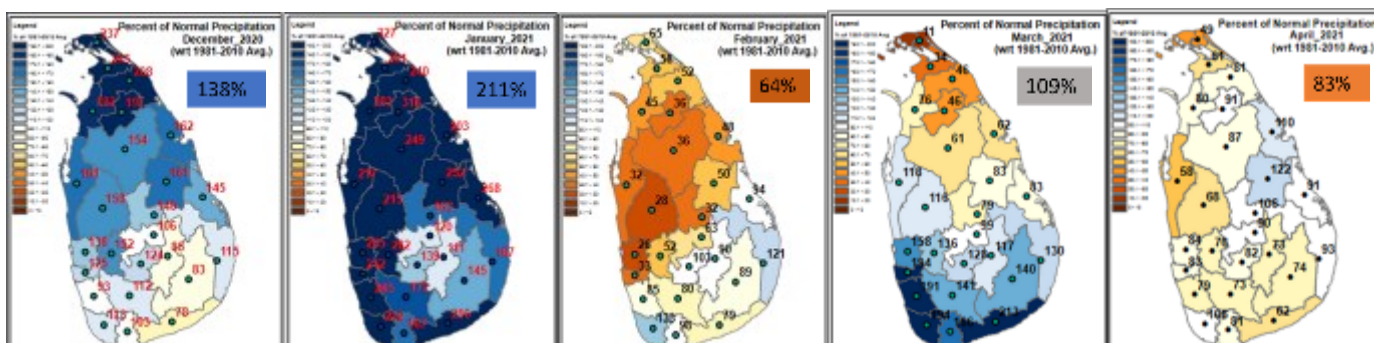
Meanwhile, an above-normal rainfall was observed in North-central, North-western and Northern regions (Figure 01 & 02) during December and January, accumulating good water storage in tanks in the Dry & Intermediate zones. These favourable rainfall regimes during the “Maha” season helped to enhance the cultivation of paddy, vegetables, fruits and other cash crops, despite the COVID-19 outbreak. The 2020/21 "Maha" season harvest was above the 10-year average despite the delayed start of the season due to weak second inter-monsoon rains during October and November 2020.

The movement restrictions imposed to contain the COVID-19 outbreak during October and November, impacted the household economy and food security in the country. The consequent return to functioning markets and supply chain helped to stabilize the demand and supply of food and other essentials. The Government also commenced an island-wide home gardening campaign to increase domestic production, which helped to provide stable income options for vulnerable communities while ensuring household food security.

The current storage levels of major and medium reservoirs in the country are above average, which is conducive for a good Yala cropping season in 2021. *For the next three months, near-normal rains are forecasted, associated with the conditions created by a mild La-Nina event currently observed in the equatorial Pacific Ocean and neutral IOD in the Indian Ocean, which may not negatively influence the water storage and cultivation in the 2021 Yala season.*

## 1. Meteorological observations

Figure 01: Monthly Rainfall deviation from long-term normal (anomaly) - 2020/2021, Department of Meteorology



- ◆ A cyclone, named **Buravi**, crossed Sri Lanka as a cyclonic storm after 20 years, on 2 December 2020, created some influences over the Northern part of Sri Lanka. It brought very strong winds and very heavy rainfall exceeding 200 mm which resulted in property damages, damages to agricultural lands, storm surge and flash floods in low lying areas, particularly in the northern and eastern provinces of the country. However, damages were less compared to the previous cyclones event of 1978.
- ◆ In December 2020 and January 2021, above-average rainfall was observed in the Dry Zone, especially in some parts of Mannar, Kurunegala, Polonnaruwa and Anuradhapura districts which received around 200 per cent increase compared to their long term averages (**Figure 01**).
- ◆ Based on the locally observed data by DoM: Rainfall received during the North-East monsoon season (December 2020 to February 2021) was reported as above normal compared to the long-term average (1981-2010), over most parts of the country except Monaragala and Nuwara Eliya districts, where near normal rainfalls received. (**Figure 02**)

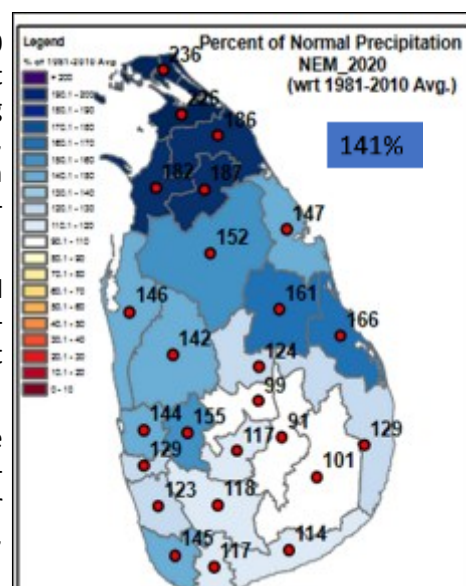


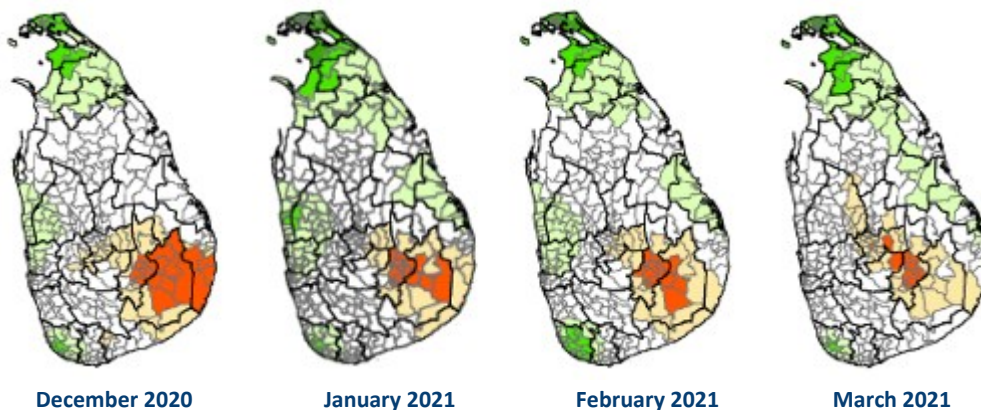
Figure 02: Seasonal (December 2020 to February 2021) Rainfall deviation from long-term normal (anomaly)

**Figure 03 - Six months Standard Precipitation Index**

**Legend**

**SPI Classification**

- 2.0 and below (Extremely dry)
- 1.5 - -1.99 (Severely dry)
- 1.0 - -1.49 (Moderately dry)
- 0.5 - -0.99 (Mildly dry)
- 0.49 - +0.49 (Normal)
- +0.5 - .99 (Mildly wet)
- +1.0 - +1.49 (Moderately wet)
- +1.5 - +1.99 (Severely wet)
- +2.0 and above (Extremely wet)

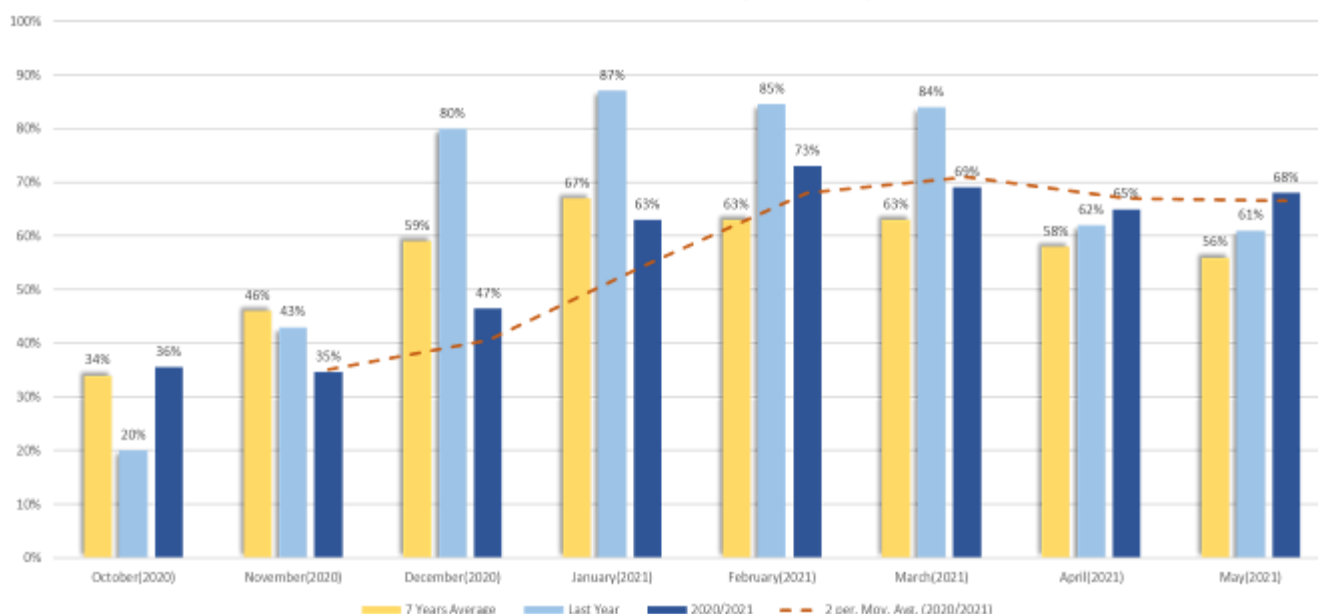


- ◆ **Standard Precipitation Index (SPI)** ((*Figure 03*); long term rainfall anomaly index) produced by DoM shows that, moderate dry weather in South-eastern areas since August 2020. However dry condition was reduced with gradual onset of the Northeast monsoonal rains during December to February period in these areas enabling a good cropping season. Mild dry conditions have prevailed in some parts in Uva province, however, wet conditions prevailed in most parts of northern and eastern areas during past five months.
- ◆ In general, good rainfall distribution prevailed in all parts of the country, which is favourable for many sectors such as hydro-power, drinking water and irrigation.

**2. Hydrology and access to water**

- ◆ According to the Department of Irrigation, the water flow of rivers in wet and Intermediate zones were below the average at the end of April compared to an average year, meanwhile, dry zone rivers also remained at near or below average flows.
- ◆ Water storage of major irrigation reservoirs (*Figure 04*) were around 68 per cent for the entire country at the mid-May 2021 while medium reservoirs are above 75 per cent. This is at an above-average situation compared to the last seven years.
- ◆ The water discharge and storage situation in the whole country is in favour of a good Yala season cultivation, than in previous years. However, the existing storage and river levels may not be sufficient for a successful Yala cultivation in some areas where the water storages are not favourable, especially in the Dry zone which is not under the influence of the southwest monsoon. However, anticipated pre-monsoon disturbances during early to mid-May would improve the water situation in tanks of the Dry and Intermediate zones.
- ◆ It is observed that hydropower reservoirs in the Mahaweli, Laxapana and Kukule schemes are at the above 55 per cent condition at the end of April, which is a very positive condition.

**Major Water Reservoir storage mid-May 2021**



**Figure 04: Monthly water capacity of 73 major irrigation reservoirs, Source: Department of Irrigation**

### 3. Agriculture production, markets and food security

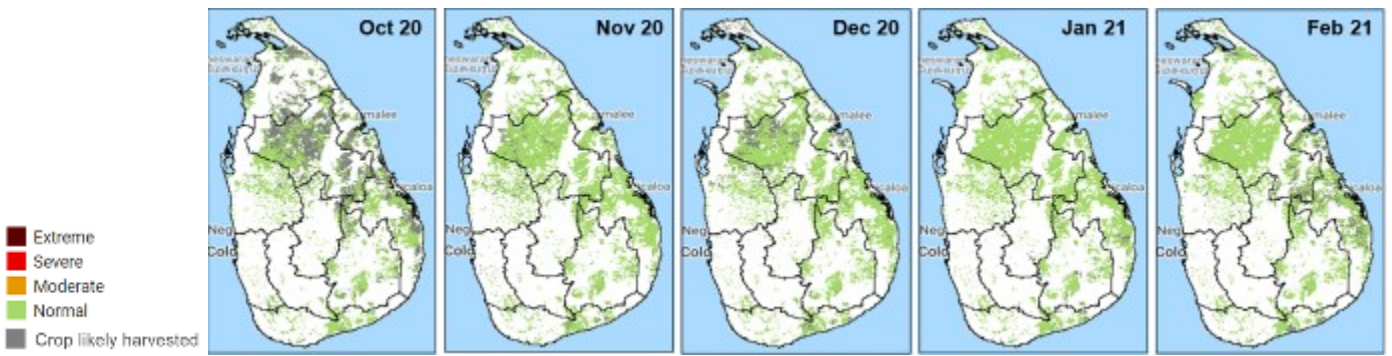
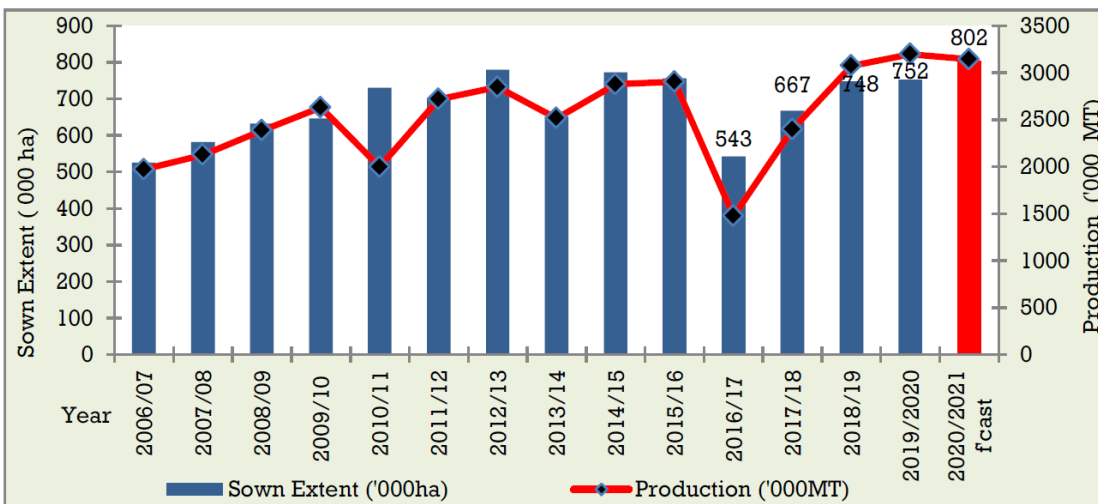


Figure 05: Integrated Drought Severity Index (IDSI) Oct 2020 – Feb 2021: Source: IWMI/WLE/MAFF

- ◆ Integrated Drought Severity Index (IDSI) which is a composite of rainfall, vegetation, soil moisture and temperature to monitoring the scale of Agricultural drought (Figure 05) indicates that this “Maha” season is a normal year, providing a good harvest for major crops such as rice and most of the non-rice crops including maize (IWMI); Their respective yields were substantially higher than the long term average;
- ◆ Based on the **Crop Forecast** issued in April by the Department of Agriculture, the sown extent of Paddy in the “Maha” season at the end of March 2021, reached 95 percent of the target, despite damages that occurred to nurseries due to the impact of Cyclone **Buravi** in early December. This was the best season during the last 5-years mainly due to good carry over storages of irrigation tanks from the last Yala season coupled with good rains during northeast monsoon owing to La-Nina conditions prevailed in the central-eastern Pacific ocean. The expected paddy production will be sufficient for more than ten months. When considering the expected paddy production of 3.12 million metric tonnes for the “Maha” season (Figure-06), along with the harvest of the 2020 Yala season, the country will produce adequate paddy production for the year 2021;
- ◆ Cultivation progress of major OFC’s up to the end of March 2021 was 94 per cent of the target. The progress of cultivating major up-country vegetables is at 94 per cent from the target and in the low country, it was 91 per cent of the target. Maize production also reached 99% of the target. However, the cultivation of crops such as Big Onion, Green Chilli and Soya bean reported lower progress (57 per cent, 66 per cent and 5 per cent, respectively). Perennial crops including tea and rubber coconut are not largely affected by the water stress;
- ◆ The country’s agrarian economy is affected by the ‘COVID-19’ pandemic during with movement restrictions due to the COVID outbreak, disturbing the whole food system. Though all walks of people are affected due to COVID-19, however, perishable crops such as vegetables’ producers are affected severely because of the breakdown of the supply chain. Movement restrictions impede the farmers’ access to the market limiting their productive capacities and selling their produce;
- ◆ The outbreak of COVID-19 created difficulties in farming during the period of last October to February. This was partially offset by introducing home gardening around the country through a government programme that issued seed packs to farming families. The home gardens helped to reduce household food insecurity to some extent.

Figure 06: “Maha” Paddy Production Outlook, Source: Crop Forecast April 2021: Socio Economic Planning Centre, Department of Agriculture



## 4. Health and Social impact

- ◆ The third wave of COVID outbreak is unprecedented in the country, creating a huge increasing trend of patients and deaths, COVID vaccination programme is underway in Western province and will rollout to other Districts in a phased approach;
- ◆ Schools around the country commenced in early April, however, closed until further notice due to the ongoing COVID outbreak all Island. In addition, Islandwide movement restriction is imposed by authorities to curtail the disease outbreak;
- ◆ The Ministry of Health developed comprehensive COVID-19 outbreak control guidelines for various interventions with special attention given to preparing for search and rescue operations and safety centre management during the South-West monsoon season.
- ◆ Several sectors such as Tourism, trade, investments are impacted by COVID related restrictions and other parameters. WFP is planning to assist the most vulnerable pregnant mothers with a cash grant in key targeted areas together with Government agencies.

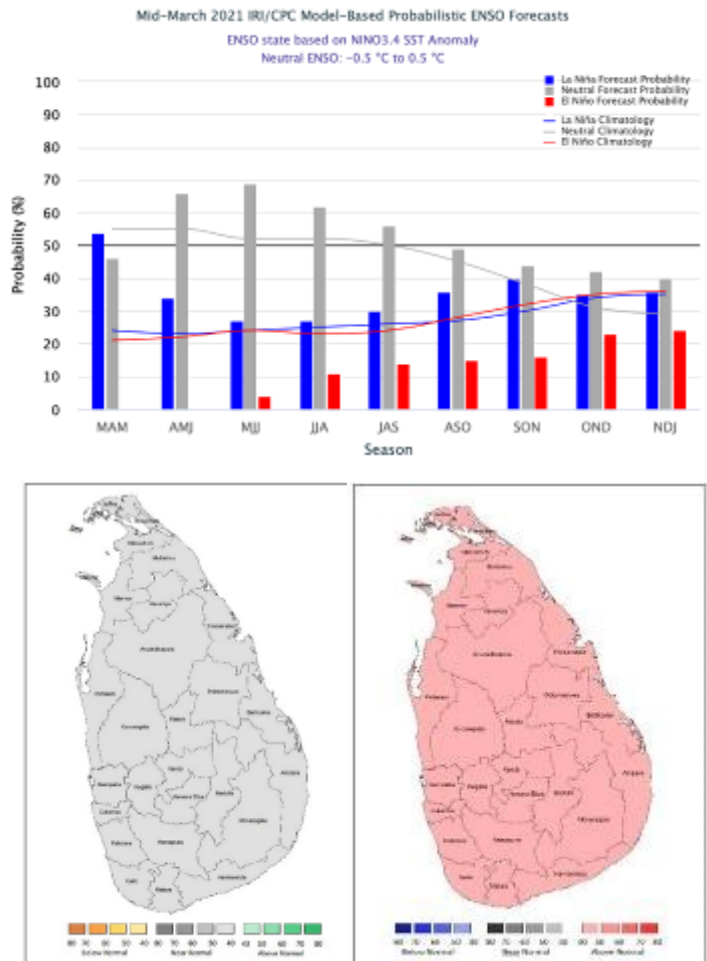
## 5. Government response during COVID-19

- ◆ The second wave and third wave COVID-19 outbreak was unprecedented during October to December there were tremendous challenges in health, food supply and food security, income losses, indebtedness and other major economic activities;
- ◆ In responding to the crisis, the Government immediately implemented several social protection schemes such as providing cash grants through the Samurdhi scheme covering all vulnerable groups and door-delivering food packs in movement-restricted areas;
- ◆ Relief packages were offered to the private sector with the support of many stakeholders, including small and medium enterprises. To stabilise the national economy, the Government also relaxed taxation policies, temporarily banning imports to restrict monetary outflows and focused on increasing local production.

## 6. Climate and seasonal Outlook

**Figure 07: ENSO monitoring (sea surface temperature in Pacific ocean); Source: IRI/CPC**

- ◆ ENSO (Figure 07: El-Nino - La-Nina) and Indian Ocean Dipole (IOD) are predicted to be neutral in the next four months.
- ◆ **Department of Meteorology:** According to global model forecasts and current conditions of global climate drivers, there is a higher probability for near normal rainfall over the country during the southwest monsoon 2021 from May to September (Figure 08-left);
- ◆ There is a chance of experiencing above normal maximum (day-time) temperatures over Sri Lanka while below normal minimum temperatures during the southwest monsoon 2021 season (Figure 08-right);
- ◆ Furthermore, there is a possibility of forming low-pressure atmospheric systems in the Bay of Bengal (particularly during the latter part of May) at the pre-monsoon or during the monsoon, which could develop into depressions or cyclones, could bring excess rainfall over the country.



**Figure 08: Seasonal (May to August) rainfall & maximum temperature forecast for Sri Lanka, DoM**



Photo Credit: Department of Irrigation

This bulletin is jointly produced by Department of Meteorology, Department of Irrigation, Department of Agriculture, Disaster Management Center, Ministry of Health, National Disaster Relief Services Center and International Water Management Institute, with the support of the United Nations World Food Programme.

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*Disclaimer: This bulletin looks into the key aspects of climatic seasonal trends and their impact on the population and food security during the fourth quarter of 2020 and 1st quarter of 2021, using local information and the products of Platform for Real-time Information and Situation Monitoring (PRISM). PRISM system is WFP hosted spatial data system, has the capability of automatic capture of climate related and space based information.*