# **CROP SITUATION** ASEAN Early Warning Information

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The situations of Brunei including the weather, sunlight, and rainfall are suitable for cultivating crops in 2020. The amount of rainfall is sufficient to cover the water needs of the various crops. Water management and irrigation system in the country are also adequate to grow crops for the whole year. In addition, plants get enough sunlight in which the optimum temperature is around 38 degrees Celsius.



In Brunei Darussalam, natural disasters are mostly due to pest outbreak. In April 2020, the country was impacted by outbreak of Fall Armyworm (FAW) (scientific name Spodoptera Frugiperda) in their maize production. FAW poses high risk that threatens the production of the country's agricultural crop industries especially paddy thus a drastic control measure for the purpose of breaking the life-cycle and reduce the reproduction of FAW was taken. Farmers are temporarily banned from planting maize and crops affected are ordered to be removed and destroyed and planted land is to rest from planting for 3 months which are in accordance to the provisions under Agricultural Pests and Noxious Plants Act. However, farmers were allowed to grow maize again after August 15, 2020.



The production of rice showed positive growth, gross output is expected to increase from the previous year due to factors such as the increase in cultivation areas for paddy as well as the use of high yielding rice varieties which result in increase in yield. The yield of rice is expected to increase due to the improved skills and capabilities of paddy farmers in management of their farms. The harvesting periods of rice are from December 2019 to March 2020 and November 2020 to February 2021 for wet season, and June to September 2020 for dry season. For cassava, 2020 data shows increase in production compared to 2019, this is due to more areas planted after the implementation of flood mitigation program whereby drainage systems are improved. The harvesting periods of cassava are all year round.

For the situation of COVID-19 spread, the production of five main crops is not affected in Brunei.





The weather conditions of Cambodia including the weather, sunlight, and rainfall are suitable for cultivating crops in 2020. The average temperature is around 28 degree Celsius. Most of the agricultural areas are in the irrigation areas, some of which are slightly affected by natural disaster such as flood in Kretie Province and Stung Treng Province, and drought from lack of water irrigation system in Banteay Meanchey Province, Battambang Province, and Kampong Thom Province. Despite the rain, the water is still be shortage every year. The impact of unfavorable weather on crop cultivation in some areas also affected to the five main crops as follows.

The production of rice tends to increase from the previous year because the price of rice goes up resulting in the increase in rice cultivating area as farmers have more incentive to grow crops. Moreover, government also encourages farmers to expand planting area and use good varieties of rice. The yield of rice is expected to decrease slightly because it is affected by natural disasters such as flood, heavy rain (or thunderstorm), and drought in some areas. The harvesting period of rice in 2020 is around August to December 2019 for wet season, and January to March 2020 for dry season. For maize, the production is estimated to rise from last year because farmers have incentives to expand the planting areas from the increasing price of maize. While the yield of maize is likely to decline due to unfavorable weather affected by natural disaster from flood, heavy rain, and drought in some areas. The harvesting period of maize is from August to October 2020 in wet season and

from February to March 2020 in dry

season.

For sugarcane, the production is expected to increase from 2019 as the price of sugarcane goes up resulting in the increase in planting areas. While the yield tends to decrease as a result of unfavorable weather from natural disaster for instance flood and heavy rain. The harvesting period of sugarcane in 2020 is from December 2020 to February 2021.

For cassava, the production is expected to increase from 2019 because farmers have more incentive to expand the planting areas as the price of cassava rises. In addition, there is government policy to encourage farmers to grow cassava. The yield of cassava tends to decrease due to the effect of natural disaster from flood, heavy rain, and drought in some areas. The harvesting period is from December 2020 to February 2021.

For soybean, the production is likely to increase because farmers have more incentive to expand the planting areas as the soybean price goes up and government also has a policy to encourage farmers to cultivate soybean. While, the yield of soybean is estimated to decline as a result of natural disaster from flood caused by heavy rain. The harvesting period of soybean in 2020 is during September to October 2020.



With regard to the spread of COVID-19, it is great to hear that the situation of crop production and food security of Cambodia is not affected by COVID-19.

ASEAN Early Warning Information



#### Crop Situation in 2020

The weather in Indonesia is unfavorable for growing crops in 2020 (2019/2020) which was caused by natural disasters from flood, diseases, pests, water shortage and drought. The situation of drought occurred during May to June 2020 especially in the Sumatera region. While Java Island especially the East part of Bali and East and West Nusa the dry season started earlier and will be raining in the dry season from normal to below normal. Eventhough still in the normal level the unfavorable weather conditions are affected by the El Nino effect. This leads to the delay of growing season as follows.

For the situation of COVID-19 spread, the production of five main crops is not affected in Indonesia.

# PARTICULAR LINES AND LINES

Figure 1. The Map of Dry Season Forecast in Indonesia 2020

## Gine And

The weather conditions are not favorable to grow rice because the rice production is affected by the El Nino effect and water shortage from agricultural areas and irrigated areas. As the price of competitive crop increases, farmers change to grow other competitive crops that gain more profits. This leads to the decrease in rice planted areas and production in growing season of 2020. The major harvesting periods of rice are January to April 2020 and October to December 2020 for wet season, and May to September for dry season.



The production of maize is expected to increase from the previous year because the weather is favorable to grow crops. Additionally, the stable of maize prices, falling price of competitive crops and government policy help encourage farmers to expand maize planted areas. Farmers also use fertilizers and good varieties for planting resulting in the increase in maize production. The harvesting periods of maize can be divided into three period which are January to April 2020 for the first crop, May to August 2020 for second crop and September to December for the third crop.



The production of cassava increased from the previous year due to the favorable and farmer's response to the price increase which encourages farmers to expand the planted areas. While the yield of cassava tends to decrease because famers rarely take care of cassava. The harvesting periods of cassava can be divided into three periods which are January to April 2020 for the first crop, May to August for the second crop and September to December 2020 for the third crop. For sugarcane, the production

tends to increase from 2019 as the weather is suitable to grow crops and government also has a policy to support sugarcane cultivation which encourages farmers to expand the planted areas and production. The harvesting period is from February to November 2020.



The production of soybean is estimated to increase from last year due to government policy which encourage farmers to expand the planted areas. While the soybean yield tends to increase due to the favorable weather, better caring of crops, and using more fertilizer and good varieties. The harvesting periods of soybean can be divided into three periods which are January to April 2020 for the first crop, May to August for the second crop and September to December 2020 for the third crop.



The weather in Lao PDR is unfavorable for growing crops in 2020 (2019/2020) which was caused by flooding in Northern region affected by rainy storms, drought in southern and central regions affected by rain deficiency, little rainfall and high temperature. The temperature of this year was hotter than usual, the range of temperature was around 23 to 35 degrees Celsius. With the spread of COVID-19, it also affected to the export of some products which lead to the decrease in production since the border was temporary closed. The impact of unfavorable weather on crop cultivation affected to the five main crops as follows.



The production of rice is expected to decrease from the previous year because planted area was decreased as a result of drought, low rainfall, and flood in some areas. Even though, farmers took better care of their crops to compensate the reduction of the areas, the production is still less than previous year. The harvesting period of rice in 2020 is around September to December 2019 for wet season, and March to May 2020 for dry season.



For maize, the production tends to decrease because the reduction in both planed area and yield affected by natural disaster from drought, low rainfall, and flood in some areas. The harvesting period of maize is from August to October 2020 for wet season and from January to February 2021 for dry season.



For sugarcane, the planted area is estimated to increase because farmers respond to the rising up of sugarcane price. However, the production of sugarcane tends to decrease because of the reduction in yield as a result of unfavorable weather affected by natural disaster from drought, high temperature, low rainfall, and flood in some areas. The harvesting period of sugarcane in 2020 is from December 2019 to March 2020.



The production of soybean is expected to increase due to the increasing in planed area and yield. The planted area is expected to increase because the government encourages farmers to cultivate soybean. Yield is predicted to increase because famers took better care of their crops and the natural disaster has no impact to their crops. The harvesting period of soybean in 2020 is during September to October 2020 for wet season and January to February 2020 for dry season.



The production of cassava is forecasted to increase due to the increasing in planed area and yield. The planted area is expected to increase as the price of cassava goes up. Yield is expected to increase because famers took good care of their crops and the natural disaster has no impact to their crops. The harvesting period of cassava in 2020 is during October to December 2020.

September 2020 | No.25

ASEAN Early Warning Information



Crop Situation in 2020

The crop conditions of Malaysia in 2020 (2019/20) are favorable for growing crops because water supplies from rainfall, water management and irrigation system are sufficient to cover the water needs of crops for the whole year. Moreover, crops also get enough sunlight for growing and the optimal temperature for planting is around 30.8 degrees Celsius.



Most of natural disasters in Malaysia occurred from pests and diseases which attacked various crops especially in rice production in the area of Seberang Perak. Although government has policies to motivate farmers to increase planted area, yield of rice continuously decreased as a result of the spread of pests and diseases. In addition, the situation of COVID-19 spread affected agricultural sector as foreign workers could not go to Malaysia to do agricultural activities resulting in labor shortage. The harvesting periods of rice are from December 2019 to June 2020 in wet season, and from July to November 2020 for dry season.



The planted area and yield of cassava is expected to increase from the previous year as the weather conditions in general are suitable for growing crops and the situation of COVID-19 spread did not affect the production of cassava at all. The harvesting period of cassava is from October 2019 to December 2020. ASEAN Early Warning Information

#### Crop Situation in 2020

MYANMAR

The crop conditions of Myanmar in 2020 (2019/20) were unfavorable for growing crops due to aberrant weather, heavy rain interspersed with unusually warm weather, and pests. The areas affected by heavy rain were in Naypyitaw, Kachin, Kayar, Kayin, Chin, Sagaing, Tinitharyi, Bago, Magway, Mandalay, Mon, Yangon, Shan and Ayeyarwaddy. While the areas of Sagaing, Bago, Magway, Mandalay, Mon, Shan and Ayeyarwaddy are hotter than usual resulting in wildfire. In addition, Saline intrusions as a result of drought caused damage to the planted area. Pests are mostly found in the areas of Sagaing, Bago, Yangon and Shan.

The five main crops affected by aberrant weather was caused by heavy rain which lead to the flash floods. As a result, farmers reduced the planted area of rice, maize, soybean, and cassava. The yield of rice, soybean, and cassava is expected to reduce as well. While the demand of maize is still high and the price has still not dropped which motivates farmers to take good care of crops. Hence, it is estimated that aberrant weather has little impact on the yield of maize. For sugarcane, despite of aberrant weather, the price of sugarcane goes up which encourages farmers to expand the planted area and take good care of crops resulting in the increase in production of sugarcane.

The harvesting period of five main crops in 2020 are as follows. For rice, the harvesting periods are from August 2019 to February 2020 in wet season, and from February to August 2020 in the dry season. While the harvesting periods of maize are from August 2019 to December 2019 in wet season, and from January 2020 to July 2020 for the dry season. For sugarcane, the harvesting period is during November 2019 to May 2020. Additionally, the harvesting periods of soybean are from August 2020 to December 2020 in wet season and from August 2020 to May 2020. Lastly, the harvesting period of cassava is between September 2019 and June 2020.

With regard to the situation of COVID-19 spread, the production of five main crops is not affected in Myanmar.





The crop situation on the Philippines in 2020 (2019/2020) was favorable for growing crops because water management and irrigation system in the country were sufficient to cover the water needs of crops for the whole year. While natural disasters occurred in some areas, these had minimal impact on crop cultivation.



Although the Philippines was affected by Typhoon Tisoy in Bicol Region and tropical storms in Cagayan Valley Region and CALABARZON during October to November, most of the planted area had irrigation system which were enough for crop needs. Additionally, most farmers took good care of their crops, had good management system, used fertilization and improved the quality of harvests by using hybrid and certified seeds. This lead to the increase in yield of rice. The harvesting periods of rice in 2020 are from July to December 2019 for wet season, and January to June for dry season.

Maize was affected by tropical storms in Cagayan Valley Region during October to November but managed to register increase as there was better harvests during the first three months of the wet season. Also, most of the planted areas had irrigation system which was sufficient to the crop needs. Additionally, famers applied more fertilization and used the improved varieties of hybrid and certified seeds resulting in the increase in planted area and production from the previous year. Lastly, additional farmers opted to grow maize, due to less demand for soybean and cassava. The harvesting period of Maize in 2020 is around July to December 2019 for wet season, and January to June 2020 for dry season.



Sugarcane was affected by volcanic eruption only in affected areas and for certain period. However, farmers took good care of crops, got rid of weeds, and used good varieties and good quality planting materials. These led to the increase in harvested area and production from the previous year. The harvesting period of sugarcane in 2020 is from September 2019 to August 2020, but the reported production is until June 2020 only.



For cassava, the production was reduced from last year due to shifting of some areas from cassava for industrial use to yellow corn production due to availability of seeds from the Department of Agriculture and Local Government Units coupled with lesser demand from feed processors. Likewise, production of soybeans dropped due to shifting to corn and vegetables production due to lesser demand. The shifting led to the decrease in area harvested from the previous year, both for soybean and cassava. The harvesting periods of Soybean in 2020 are from July to December 2019 for wet season, and from January to June 2020 for dry season. The harvesting periods of Cassava in 2020 are from July to December 2019 for wet season, and from January to June 2021 for dry season.



With regard to the effect of COVID-19, it is good to note that the situation of crop production and food security of the Philippines is not affected

ASEAN Early Warning Information

### Crop Situation in 2020

THAILAND

The crop conditions in Thailand in 2020 (2019/2020) were unfavorable for growing crops which were caused by flood in some provinces in the Northern and Northeastern regions namely Chiang Mai, Chiang Rai, Phrae, Nan, Phayao, Mae Hong Son, Lampang, Sukhothai, Uttaradit, Udon Thani and Bueng Kan, drought in some areas in the Northeastern and the central regions, and high temperature. The temperature is increasing by 0.6 degrees Celsius every year, the average highest temperature is 38 degrees Celsius. These natural disasters were the most obstacle to farmers for cultivating crops.

Even though Thai farmers face with various natural disasters like drought and flood, there are some other factors that motivate farmers to continue to expand their areas and increase crops' productivity. The production of maize and soybean are expected to increase due to the expansion of planed areas and yield since the natural disasters occurred in 2020 was less severe than previous years. Moreover, yield is predicted to increase because farmers took better care of their crops and did good management for controlling their crops from pests and diseases. The harvesting period of maize is from June to September 2020 for wet season and from August 2020 to January 2021 for dry season. The harvesting period of soybean is from August to December 2020.

For the main products of Thailand, especially the production of rice and cassava are expected to increase because farmers have incentive to expand their areas as the prices of rice and cassava go up, while the price of competition crops drop. Furthermore, yield of rice and cassava are predicted to increase because the natural disasters occurred in 2020 was less severe than previous years and farmers took better care of their crop as prices incentive. The harvesting period of rice is from August 2019 to April 2020 for wet season and from February to May 2020 for dry season. The harvesting period of cassava is from October 2019 to September 2020.

On the other hand, the production of sugarcane tends to decrease due to the reduction of planed area as a result of the price of competition crops increased. The harvesting period of sugarcane is from October 2019 to April 2020.

For the situation of COVID-19 spread, the production of five main crops is not affected in Thailand.





The weather conditions in Vietnam in 2020 (2019/2020) were not favorable to grow crops due to heavy rain and drought. The Northern Vietnam was hit by Typhoons and Tornados, while thunderstorms slightly affected some area of the Central Vietnam. The situation of drought occurred in Cuu Long Rivier Delta and and Central Coast Region and saline intrusions in Mekong River Delta Region. In addition to this, the spread of COVID-19 also affected to the export of some agriculture products. The policy of agriculture restructure has declined many kinds of planted areas of some crops.



decrease from planted area due to drought from inconsistent rainfall and saline intrusions in Cuu Long Rivier Delta and and Central Coast Region. In addition to this, the policy of agriculture restructure in crops lead to decline in area of paddy for increasing other crops with higher economic effectiveness. Many land for agriculture is used for non-agriculture production in urbanization period. Less labour for planting paddy is also a reason for less area planted for paddy. All above reasons lead to the decrease in planted area although the spread of COVID-19 helps increase the rice demand from global market resulting in the increase in price and the export potential of rice in Vietnam. Farmers in Vietnam cultivate 4 crops of rice each year, which are spring, summer, autumn, and winter seasons. The harvesting period of rice in 2020 is from May to June 2020 for Spring season rice in the North Vietnam, February to April 2020 for Spring season rice in the South Vietnam, August to September 2020 for Autumn season rice in the North Vietnam, July to September 2020 for Autumn season rice in the South Vietnam, September to October 2020 for winter season rice in the North Vietnam, and November 2020 to February 2021 for winter season rice in the South Vietnam.

For Sugarcane, the production decreased from previous year as the planted area for sugarcane dropped because the implement of ASEAN Trade in Goods Agreement (ATIGA) from the first of January 2020 that reduced the import and export tax of sugar to 0% has caused many difficulties for enterprises. In addition to this, the policy of agriculture restructure in crops lead to decline in area of sugarcane and increase in area of other crops with higher economic effectiveness instead. Although the government has implemented policy to support farmers for exporting sugarcane, it is not able to encourage farmers to expand planted area. The harvesting period of sugarcane in 2020 is from October 2019 to April 2020.



For Cassava, the production declined from last year due to prolonged periods of drought in planted area, and low rainfall resulting in the damage of cassava planted area. Even though the demand of cassava production from global market was high, the situation of COVID-19 spread caused the shortage of raw cassava in the global market resulting in the increase in cassava price. This, however, does not encourage farmers to expand the planted area. The harvesting period of cassava in 2020 is from February to March 2020 in the North Vietnam and September to October 2020 for the South Vietnam.



The production of maize and soybean is expected to decrease due to the planted area decrease. In addition to this, the policy of agriculture restructure in crops lead to decline in area of maize for increasing other crops with higher economic effectiveness. The harvesting period of maize in 2020 is from January to March 2020 for the first crop, April to September 2020 for the second crop and July 2020 to January 2021 for the third crop. Additionally, the harvesting period of soybean in 2020 is from August to October 2020 for wet season and March to May 2020 for dry season.