



### Season 2021 B Overview:

Season B 2021 for Maize were favorable in some regions with early planting period but most parts of Eastern region Maize were under watch.

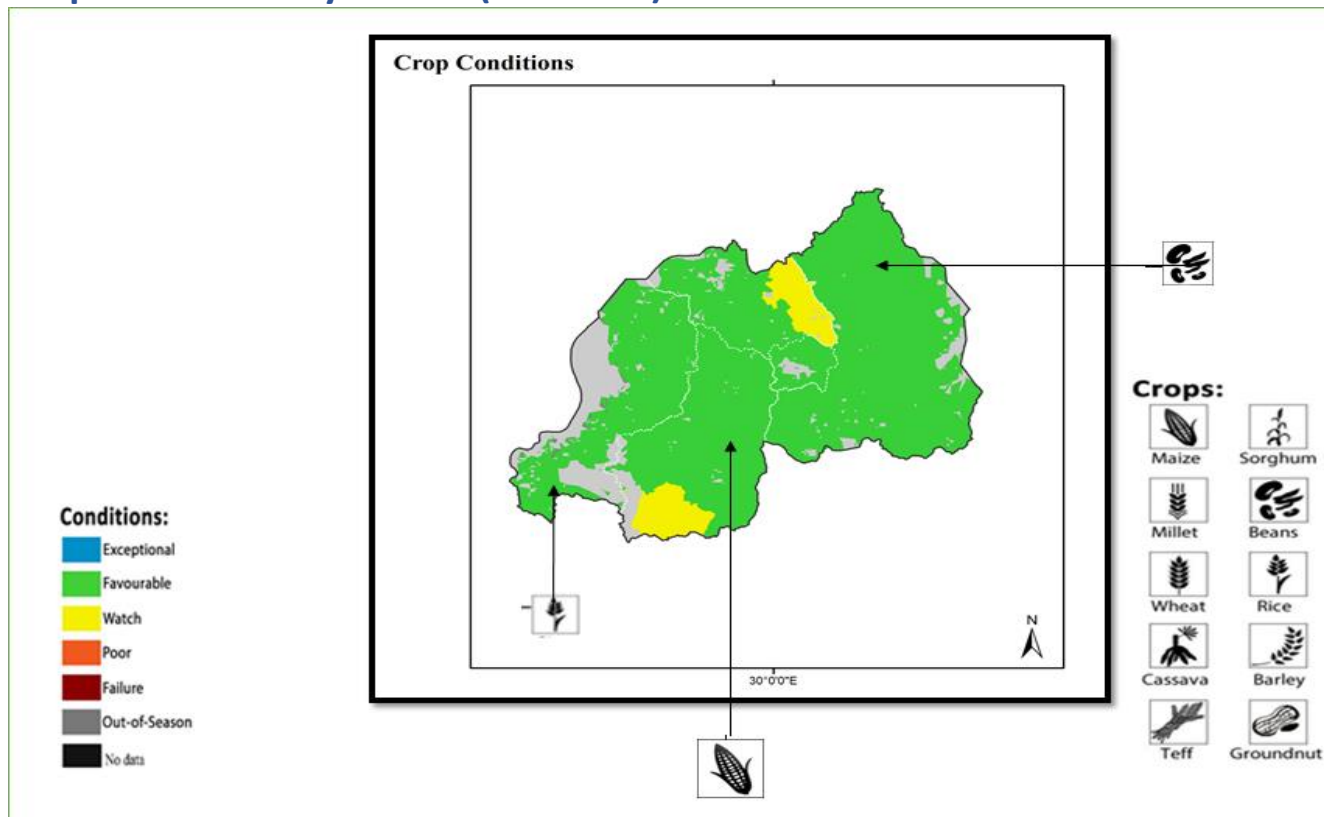
Season B beans performance were largely favorable for most parts of the country, but heavy rain recorded in March- April disturbed the vegetation of the Beans in Ruhango the plantation failed all over the district and some parts of the Southern and Northern regions as well as Gatsibo district were under watch due to mid April heavy rains.

Season B for Rice was characterized by normal to above rainfall and waterlogging that appeared in mid -April in the most potential rice marshlands of the country.

Generally, the season 2021 B conditions were favorable for Maize, beans and rice even if some of the regions was under watch conditions for maize most part of the country.

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## Crop Conditions Synthesis (Season B)



*Map showing cumulative seasonal performance for maize beans and Rice from March to June 2021 based on several variables including remotely sensed data, rainfall, ground observations, and field reports. Districts with conditions that were other than favorable are labeled on the map with their drivers.*

### Assessment by Region (Season B)

**Eastern Province:** Conditions were generally under watch in the middle of the season due to the fall armyworms affected maize crops in few districts but conditions improved due to the effective pesticides used to control of FAW. Beans and rice harvested in all districts while Maize growth challenged by prolonged dry spells and failure to timely control FAW (i.e Ndego site in Kayonza district). Currently, farmers are encourage to use irrigation during season 2021 C.

**Outlook:** Favorable conditions are boosting the expected production for beans crop. On the contrary, maize production on hillside will hamper by continuous dry period in some parts of the region where farmers planted late

**Advisory:** Keep encouraging the use of irrigation facilities under hillside plantations.

**Kigali:** The season 2021 B for agricultural zones of Kicukiro, Nyarugenge and Gasabo characterized by good rain distribution in the beginning of the rainy season. Beans were in favorable conditions. However, some of the plantations under rice crop experienced flooding in some marshlands in Nyarugenge and Gasabo Districts. Maize experienced dry conditions due to the early cessation of rain. Rice, Maize and beans have been harvested. The end of the season characterized by continuous postharvest activities for maize and Rice.

**Outlook:** Good production of Beans and Rice is expected, but there is a risk of maize production loss due to wet weather conditions experienced and affected Maize plantation in Nyarugenge District.

**Advisory:** As the season B ended, the post-harvest handling activities are encouraged for Maize and rice crops. The storage facilities should be put in place.

**Southern Province:** In most of the Districts the Season B did not perform well for Maize (which is off season in some Districts) mostly due to the FAW infection (Nyaruguru, Huye, Gisagara,) adding the early cessation observed almost in the middle of the season. For Beans, the heavy rain recorded in March-April disturbed the vegetation of the Beans were in Ruhango the plantation total failed all over the district. Rice growing districts in the southern province performed well. Harvest is has been completed almost in every district.

**Outlook:** Harvesting and field (Marshlands and Irrigated lands) preparation for the upcoming season C are going well.

**Advisory:** As we are entering in the Season C farmers are advised to exploit irrigated land and developed Marshlands

**Western Province:** The region experienced a good rain resulting in favorable conditions for beans and maize and rice production. Harvest is has been completed almost in every district.

**Outlook:** Farmers experienced good yield of beans, maize and rice during the season B preparation for the upcoming season C are going well. Average to above average beans and Maize production expected to due to the favorable weather conditions in the region.

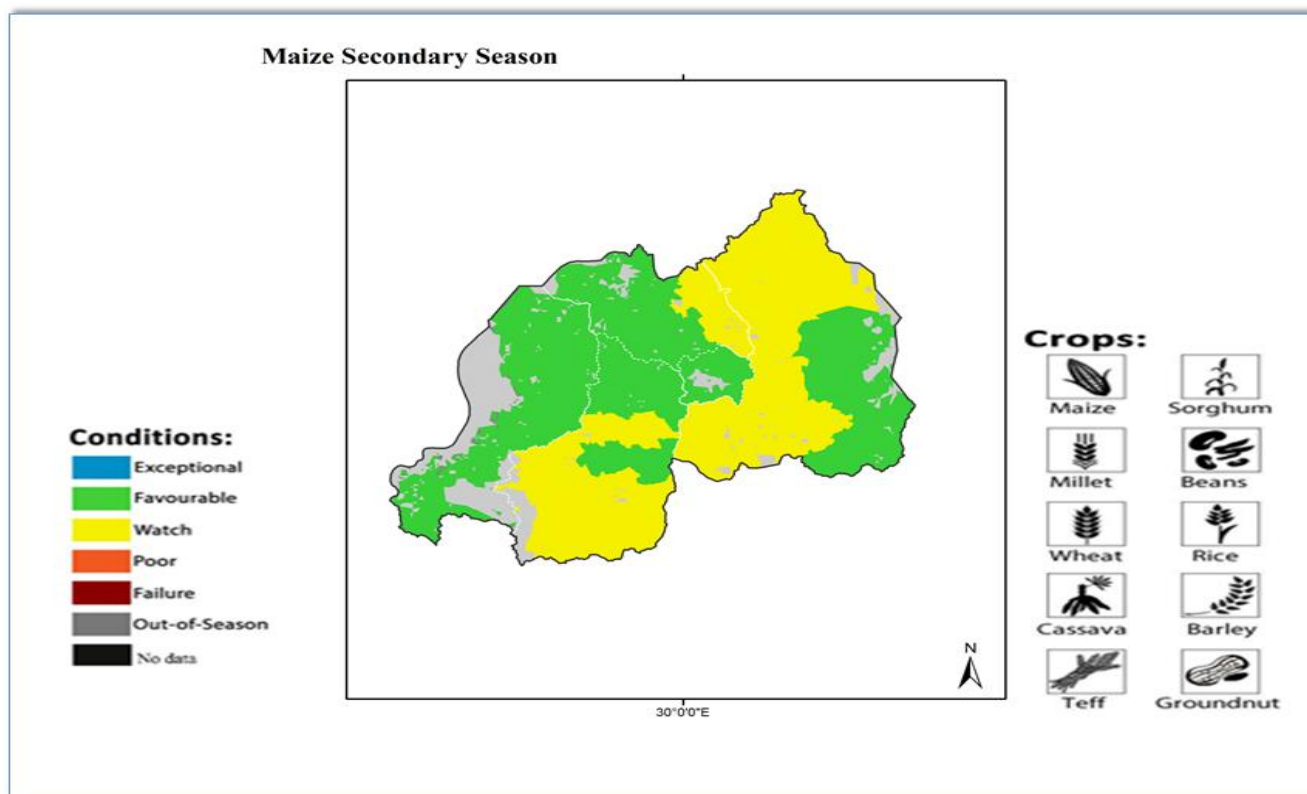
**Advisory:** Season C is normally the dry period and is more useful in harvesting and post harvesting activities. We encourage farmers to use the information given and avoid losses that should occur while harvesting for previous season.

**Northern Province:** In most of parts of the districts in Northern Province, all farmers cultivated beans as main crop of this season, which are harvested. The beans season performed well and farmers are expecting good yield in most parts of the districts. Maize is off-season with only small area areas that maize was cultivated. The production of maize was affected by early cessation of rainfall in most parts of the district and big reduction is expected. Only two Districts (Burera and Gakenke) cultivated rice, which were at harvesting stage and in good conditions. Normal production of rice expected in the Northern Province.

**Outlook:** In general, good yields of beans and rice production is expected in all districts of the Province while a reduction of maize production is expected. Farmers are advised to prepare for post-harvest activities.

**Advisory:** Good post-harvest activities are required to avoid any loss of production and close collaboration with local authorities to assure accessibility of the market.

## Assessment by Crop (Season B): Maize



*Map showing maize conditions information in Rwanda from March to June 2021 based on several variables including remotely sensed data, rainfall, ground observations, and field reports. Districts with conditions that were other than favorable are labeled on the map with their drivers.*

**Eastern Province:** Maize production was generally under watch conditions where it was grown. However, maize planted in irrigation schemes of Kirehe district or planted near other water sources with irrigation facilities performed well. Maize growth was challenged by prolonged dry spells and failure to timely control FAW (i.e Ndego site in Kayonza district).

**Outlook:** Maize production will drop drastically in non- irrigated areas.

**Advisory:** Recommend the growth of early maturing and drought tolerant varieties during B cropping season. Plant maize in plots near water sources where irrigation is possible.

**Kigali,** Generally Maize production was favorable except in Nyarugenge district where wet

conditions affected Maize crop. The harvesting period ended and the productions was good.

**Outlook:** maize production will be good in all districts and normal to slightly above normal production is expected.

**Advisory:** With this favorable weather condition, post-harvest activities are encouraged and storage facilities are required. Consider irrigation facilities for maize planted at hillside and famers need to include maize marshlands under insurance scheme.

**Northern Province:** Maize is off-season with only small area areas that maize was cultivated. The production of maize affected by early cessation of rainfall in most parts of the district and big reduction is expected.

**Outlook:** maximum maize production observed on different land use consolidated sites.

**Advisory:** Farmers are expecting support from District/RAB in providing tents for temporary shelters as most of them cannot afford them.

There will be a need for improved grain storage facilities and reduced post-harvest losses handling.

**Southern Province:** Despite an early cessation, Harvesting went well for the districts who planted maize. The early invasion of FAW observed in the late planting districts.

**Outlook:** Good harvest expected in few districts: Nyanza, Muhanga and Kamonyi.

**Advisory:** Farmers were advice to practice pest disease management and follow all post-harvest handling protocols.

**Western Province:** In all districts, Maize harvested and the production was good. All

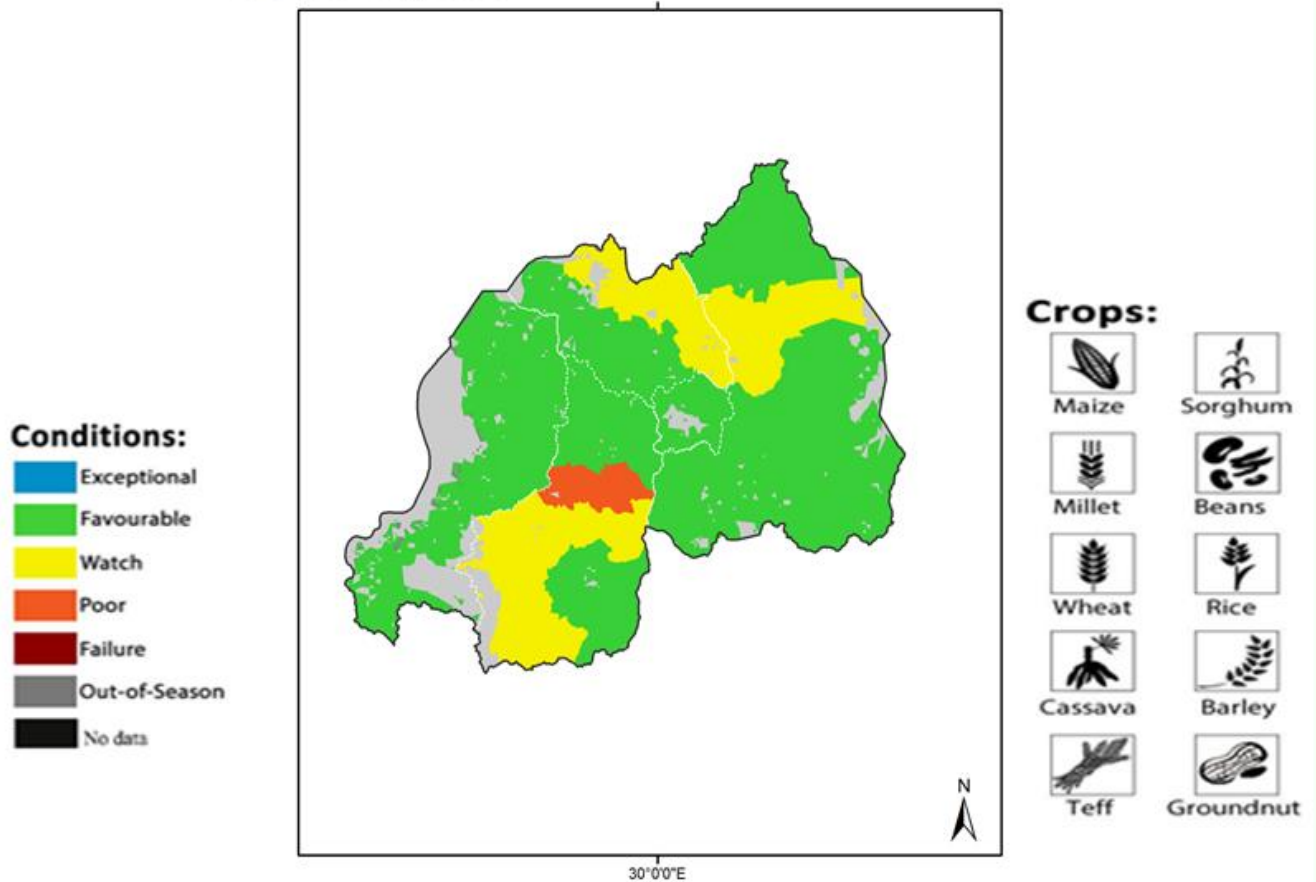
districts are experienced a variation of rainfall, which was above normal rainfall in April, to the middle of May and decrease from the middle of May up to June. The dry period of June affecting the filing and maturity growth stages.

**Outlook:** An average to above average yield of maize expected in the region. However, the region might affected negatively by the continuity of dry conditions, which lead to the losses of maize produced especially districts that planted late.

**Advisory:** Farmers need to be informed on dry period that occurred in June and possibility of irrigation equipment use where applicable, avoiding possible losses on final yield and prepare well the post-harvest activities in order to prevent more losses.

## Assessment by Crop (Season B): Beans

### Beans Secondary Season



*Map showing beans conditions information in Rwanda from March to June 2021 based on several variables including remotely sensed data, rainfall, ground observations, and field reports. Districts with conditions that were other than favorable are labeled on the map with their drivers.*

**Eastern Province:** Bean production has mainly been under favorable conditions. However, in some sectors of Gatsibo district the production of bean will reduce due to inadequate rainfall at the ponding stage. Similarly, beans production in Bugesera decreased slightly as result of too much rain in mid April and now harvesting is over.

**Outlook:** Favorable conditions along the cropping season resulted in normal bean production across the province with slight decrease in Bugesera and Gatsibo districts.

**Advisory:** Respect specific calendar of bean production. Recommend the growth of selected bean varieties suitable for specific edaphic and climatic conditions. Obey good agricultural practices recommended for bean production.

In **Kigali**, Generally, conditions were favorable across the region due to the rainfall distribution in early vegetative stage for beans.

**Outlook:** Beans have been harvest in all districts and maximum production is expected.

**Advisory:** storage facilities are required to facilitate in storing of the harvested production.

**Western Province:** In most parts of the Province, conditions were favorable for beans production. It expected that the production of beans will be normal to above normal.

**Outlook:** Harvesting has been completed in all the districts in the western region, good

yields for bush and climbing beans is expected if conditions remain constant.

**Advisory:** Farmers are advised to continuously taking care of their crop in order to maximize the yield production in season 2021C and Ensure market availability for bean production also apply irrigation facilities where applicable.

**Southern Province:** for the season B, harvesting is almost over everywhere, in some districts: Nyaruguru, Nyamagabe, Nyanza beans were affected by excessive rains (April) in their germination stage and an early cessation, Beans in Ruhango failed in most of the districts sectors.

**Outlook:** Apart from the mentioned districts were a minimum production is expected others: Kamonyi, Muhanga, Huye and Gisagara, Harvesting has been completed and slight above normal production is expected.

**Advisory:** Farmers were advice on the best postharvest handlings in order to preserve the minimum production they have as we are entering in Season C

**Northern Province:** Rainfall was above normal in mid April favoring the main crops of the season, but not excessive to induce diseases for beans particularly in the hillside were most of crops are found. Climbing beans are generally more resilient to excess rain compared to Bush beans and bush beans are the dominant varieties in the Northern Province.

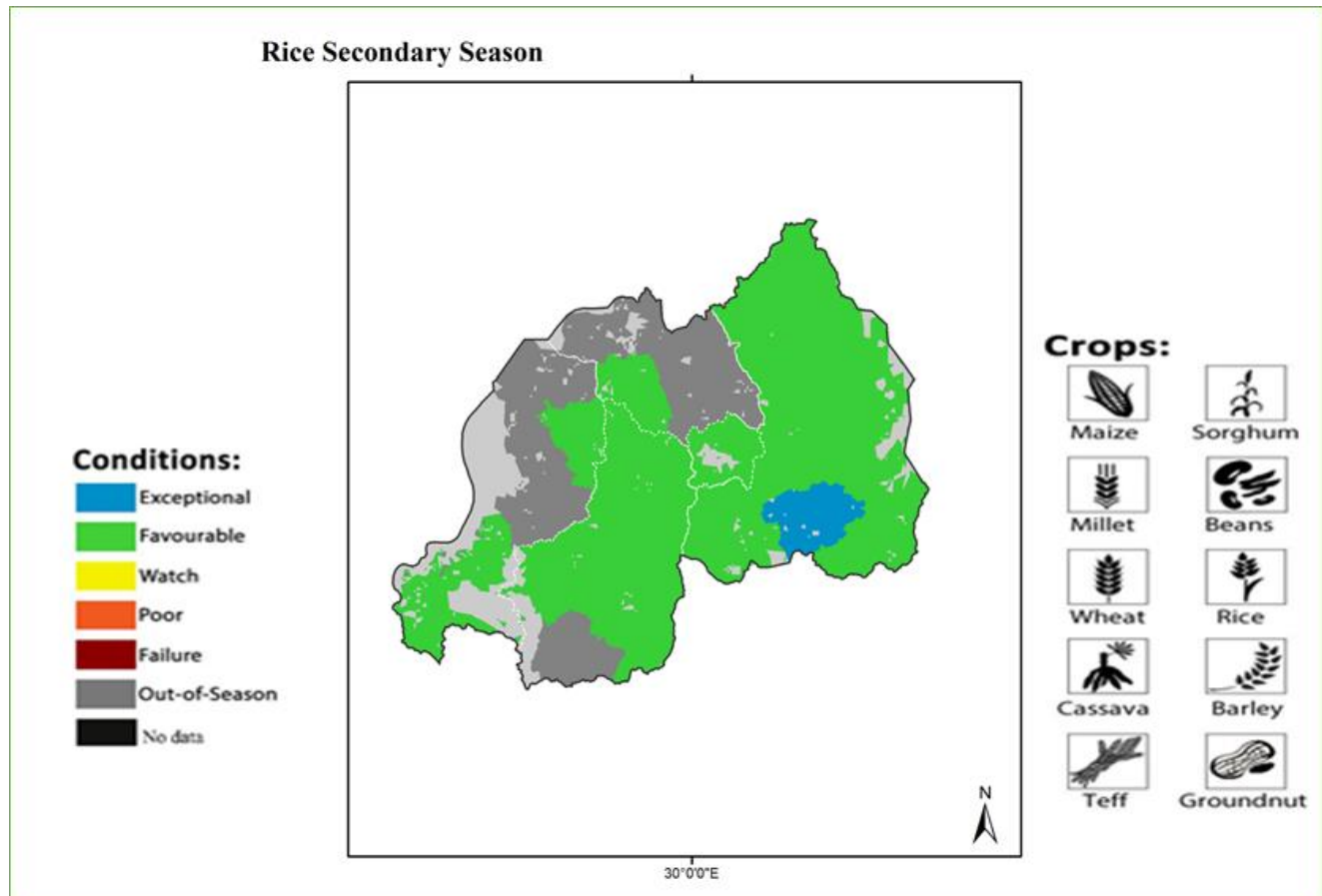
**Outlook:** A good yield of beans is expected due to a general normal rainfall distribution observed in the Northern Province and good

yield for bush beans. Climbing beans will be affected especially in Gicumbi district.

**Advisory:** farmers are advised to a timely land preparing, weeding and avail strong

stakes for Season C. farmers are being mobilized to register in SNS for inputs subsidy) and organize grain store for beans and ensure market availability.

### Assessment by Crop (Season B): RICE



*Map showing rice conditions information in Rwanda from March to June 2021 based on several variables including remotely sensed data, rainfall, ground observations, and field reports. Districts with conditions that were other than favorable are labeled on the map with their drivers.*



**In Eastern Province,** Rice planted in marshlands of Eastern province has enjoyed favorable conditions of rain-fed and irrigation system. Rice growers are harvesting in almost all rice producing marshlands using new post-harvest facilities constructed near rice marshlands.

**Outlook:** Based on the favorable conditions met across this cropping season, the expected rice production will be achieved.

**Advisory:** there is a need of strengthening the good agricultural practices of rotating rice varieties in order to suppress the outbreak of the diseases

**Kigali, Gasabo, and Kicukiro districts,** conditions for rice were good due to experienced favorable rainfall conditions during the season except in NYARUGENGE where crop condition failed due to floods occurred in some area but did not affect much on the production.

**Outlook:** current weather is favorable for post-harvest activities, which will help in good production and quality of rice in Kigali.

**Advisory:** Awareness Company to sensitize rice growers to use the insurance scheme. Storage facilities and best equipment for postharvest including drying grounds, threshers, etc. are required.

**Southern Province:** For Rice, apart from floods recorded in Muhanga that affected land preparation, other rice marshlands had a good harvest and farmers are practicing post-harvest.

**Outlook:** Good harvest of rice was recorded in the south now the focus is in the marshlands.

**Advisory:** Farmers are advised to prepare drying facilities and to apply adequate inputs. The expected above rainfall conditions in March, April and May 2021 needs to establish mitigation measures on adequate irrigation infrastructures including rehabilitation of water canals and irrigation schemes.

**Northern Province:** Only two Districts (Burera and Gakenke) cultivated rice, which were at harvesting stage and in good conditions. Normal production of rice is expected in the Northern Province.

**Outlook:** Low to moderate production expected in Gakenke district with above normal rainfall conditions caused slight floods.

**Advisory:** Avail drying grounds for post-harvest, development of swamps on by district authorities and their partners to help farmers to production high production. Quick mitigation practices (channels rehabilitation).

**Western province:** Rice production in Nyamasheke and Rusizi was under favorable conditions across the entire cropping season.

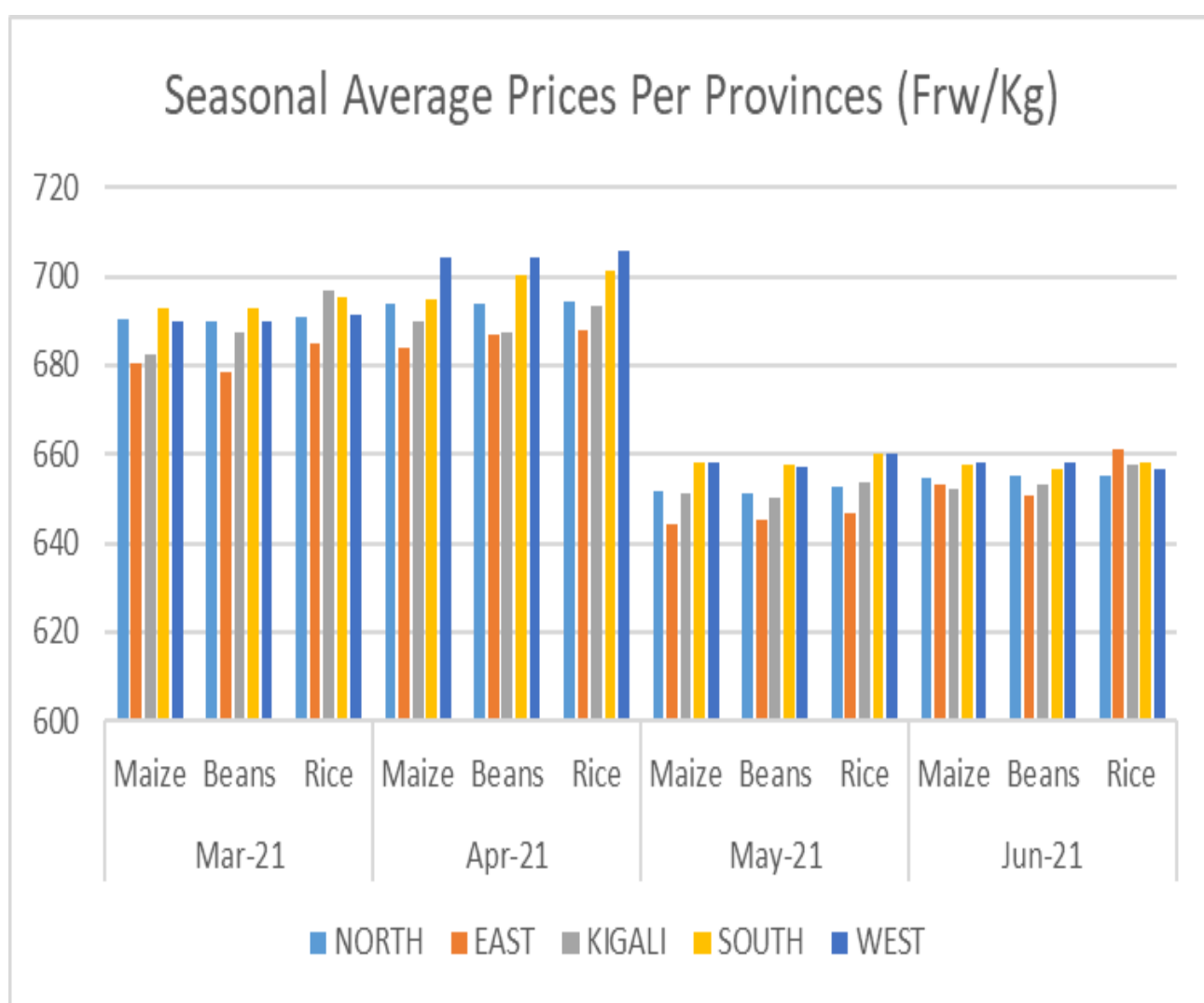
**Outlook:** Good production expected in Nyamasheke and Rusizi district especially in Bugarama marshland if conditions remain normal.

**Advisory:** Avail post-harvest equipment where necessary and help farmers during post-harvest process

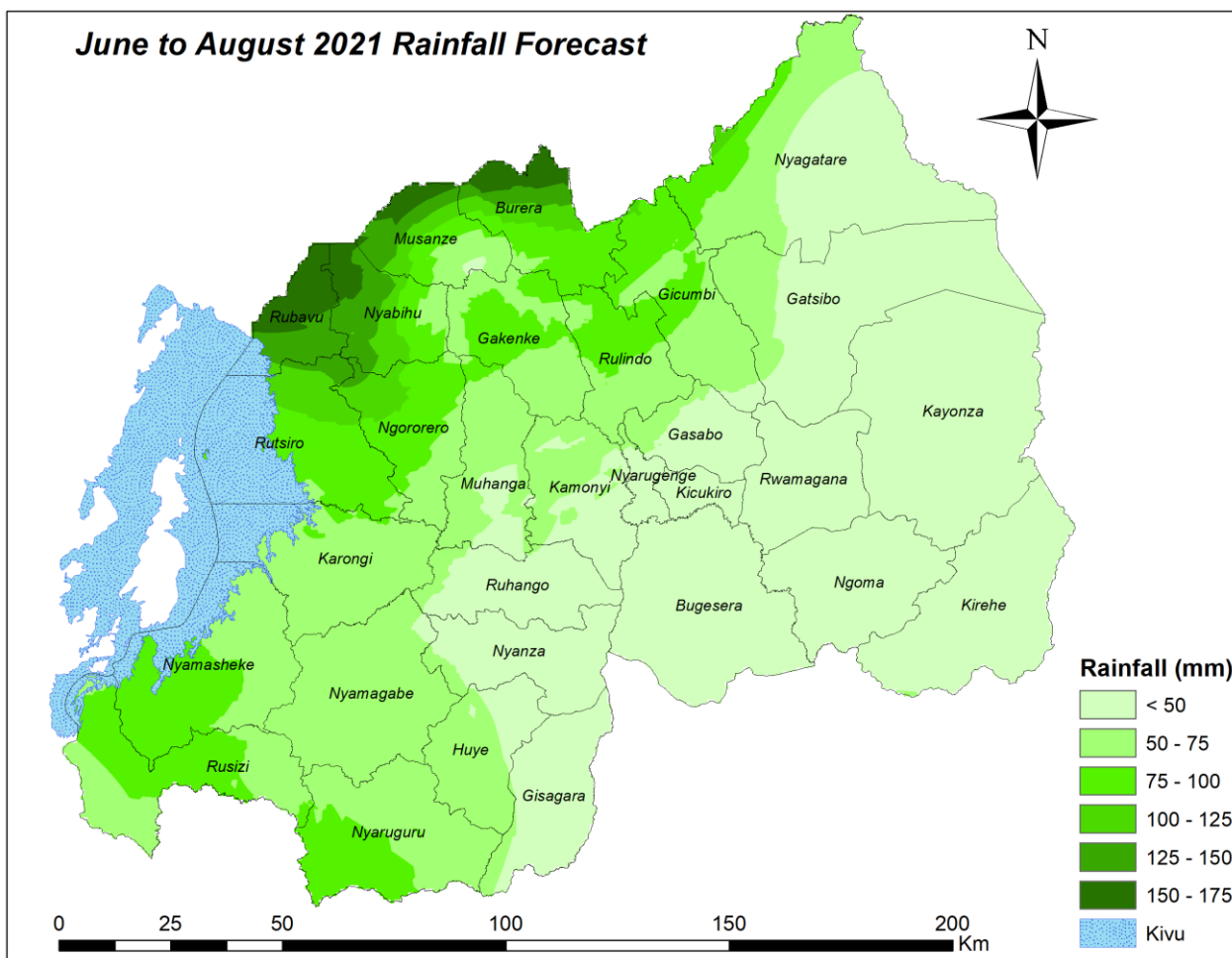
## Markets and Production Trends

Tables below are showing the variations of maize, bean and rice price throughout the season 2021B from March to June 2021, in consideration of potential markets of the country. Generally, for all crops, the high peak of the price was observed in March and April 2021, as it is the beginning of the season where all markets experienced shortage of products, as the especially for maize, beans and rice in April as the 2021B season is still ongoing on population is being consumed the production for 2020 A season.

In addition, the coronavirus (COVID-19) pandemic restriction measures are negatively affecting the ease market trans-movement of people and goods.



## Climate outlook for June –July –August 2021



**JJA 2021 rainfall forecast (Source: Meteo Rwanda)**

Based on current and expected climate systems June to August is a major dry season in most parts of the country. The global Models indicate neutral conditions in the central tropical pacific sea surface temperatures throughout the season as well as upper air circulation patterns. The forecast indicates that the country will experience near normal to slight above normal rainfall over northwestern part during June to August 2021 season.

The merged seasonal forecasts were generated using statistical and dynamical analysis performed for each zone across the country.






- Rainfall ranging between 150-175 millimeters is expected over northern parts of Rubavu, Musanze and Burera districts
- Rainfall ranging between 125-150 millimeters is expected in the southern part of Rubavu, western part of Nyabihu, central parts of Musanze and Burera districts.
- Rainfall ranging between 100-125 millimeters is expected in the northern parts of Ngororero, and Rutsiro and central parts Nyabihu districts in the western province.
- Rainfall ranging between 75-100 millimeters is expected in southern part of Rutsiro and Nyamasheke, central parts of Ngororero and northern part of Rusizi in the Western province, central parts of Gakenke and northern parts of Burera, Gicumbi and Rulindo

districts in the Northern province, southern part of Nyaruguru district in the southern province and extreme north western part of Nyagatare in the Eastern province.

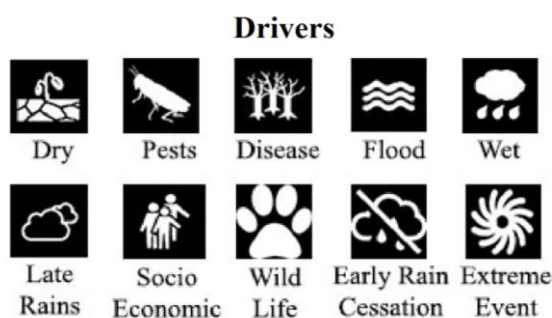
- Rainfall ranging between 50-75 millimeters is expected in Karongi, northern part of Nyamasheke, southern parts of Ngororero and southwestern part of Rusizi districts in the Western province, Nyamagabe, northern part of Nyaruguru, Muhanga and Kamonyi and western part of Nyanza districts in the Southern province, southern parts of Gicumbi, Gakenke and Rulindo districts in the Northern province, northern part of Nyagatare and north western part of Gatsibo districts in the Eastern province and extreme northern part of Gasabo district in Kigali city.
- Rainfall less than 50 millimeters is expected over Kirehe, Ngoma, Kayonza, Bugesera Rwamagana and eastern parts of Nyagatare and Gatsibo districts in the Eastern province, most parts of Ruhango, Nyanza and Gisagara districts, western part of Huye, southern parts of Muhanga and Kamonyi districts in the Southern province; most parts of Kicukiro, Nyarugenge and Gasabo districts in Kigali city.

## Terms and Definitions

### Crop Condition Classes

	<b>Exceptional</b>	Conditions are much better than average* at time of reporting. This label is used only during the grain filling through harvest stages.
	<b>Favourable</b>	Conditions range from slightly below to slightly above average at reporting time.
	<b>Watch</b>	Conditions are not far from average but there is a potential risk to final yields. There is still time and possibility for the crop to recover to average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages.
	<b>Poor</b>	Crop conditions are well below average. Crop yields are likely to be 10-25% below average. This is used when crops are stunted and are not likely to recover, and impact on yields is likely.
	<b>Failure</b>	Crop conditions are extremely poor. Crop yields are likely to be 25% or more below average.

### Driver Definitions:



These represent the key climatic drivers that are having an impact on crop condition status. They result in production impacts and can act as either positive or negative drivers of crop conditions.

**Wet:** Higher than average wetness, that results in destruction ie due to water logging and leaching of nutrients

- **Extreme Events:** This is a catch-all for all other climate risks (i.e. frost, hailstorms, mudslides etc.)
- **Late rains:** Late start of the season. **Flood:** Area is flooded
- **Early Rains Cessation:** Rains end earlier than expected in the season
- **Pests:** Destructive insects, birds or animals.
- **Diseases:** Destructive plant diseases.
- **Dry:** Drier than average
- **Socio-economic:** Social or economic factors that impact crop conditions (i.e. policy changes, agricultural subsidies, government intervention, etc.)
- **Conflict:** Armed conflict or civil unrest that is preventing the planting or harvesting of the fields by the farmers.
- **Wildlife Damage:** Crop destruction by wildlife

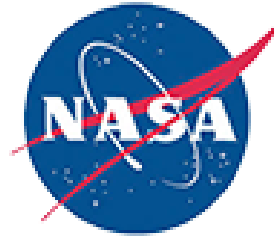
## Terms

METEO	Rwanda Meteorology Agency
MINAGRI	Ministry of Agriculture and Animal Resources
NAEB	National Agricultural Export Development Board
NCEP	National Centers for Environmental Prediction
RAB	Rwanda Agriculture and Animal Resources Development Board
RCMRD	Regional Centre for Mapping of Resources for Development
SERVIR	Joint development initiative of NASA and USAID
UCSB	University of California Santa Barbara
UMD	University of Maryland
USAID	United States Agency for International Development

## Partners



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