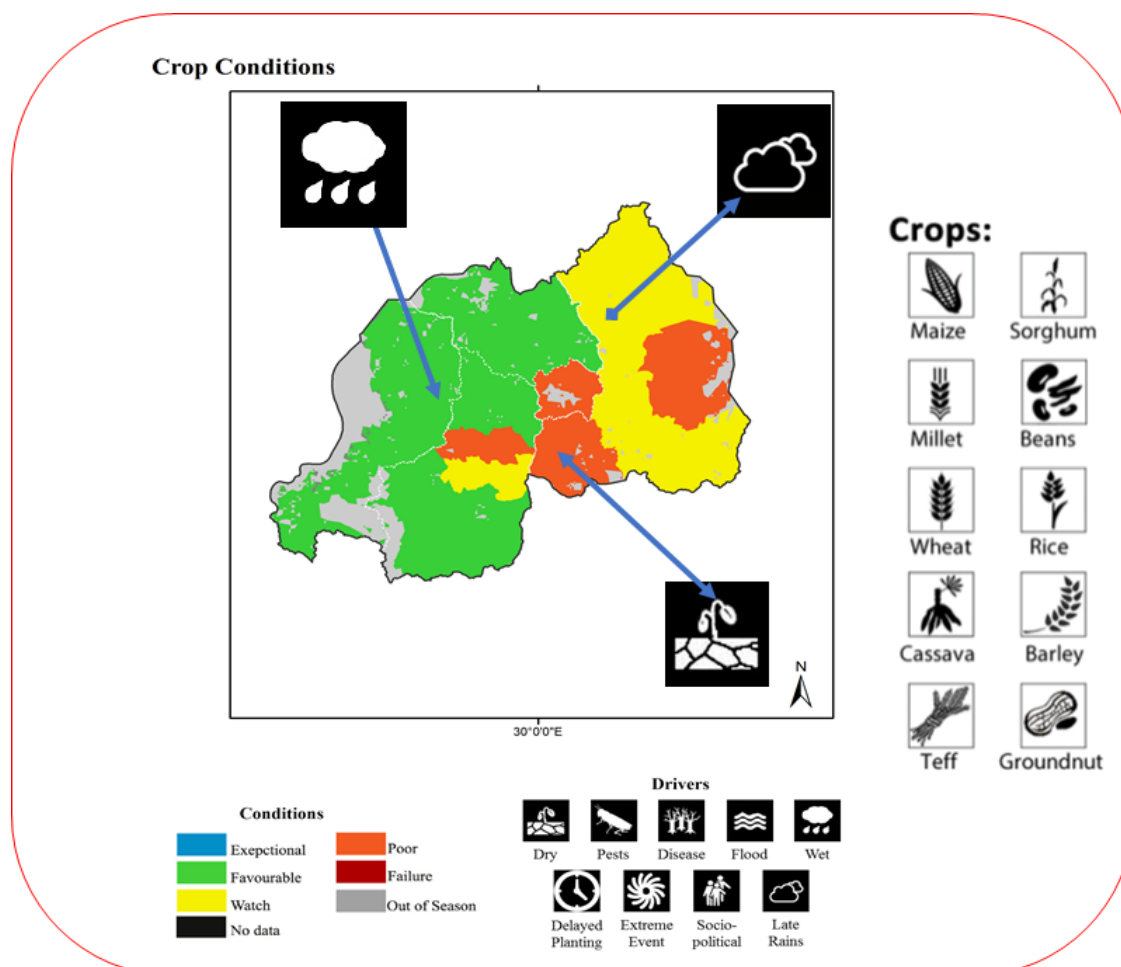




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Crop Conditions Synthesis (Season A)



Map showing cumulative seasonal performance for maize beans and Rice from September to December 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 A)

Eastern Province: Generally, conditions were generally under watch to poor conditions in the beginning of the season due to the late rain and dry conditions affected all crops in all districts. In general, the Eastern Province experienced a late rain, which led to late planting and resumed in the middle of December 2021. Currently, farmers are preparing land for season 2022 B.

Outlook: Postharvest handling activities is under threat in the area planted maize due to ongoing rainfall during January 2022. Land preparation to all site is going well for season 2022 B

Advisory: Enhance postharvest handling activities, ensure market availability and keep

encouraging farmers on the application of adequate agricultural practices and the use of irrigation facilities on hillside plantations.

Kigali: The season 2022 A for agricultural zones of Kicukiro, Nyarugenge and Gasabo were characterized by late rain and poor distribution where maize and beans were in poor conditions. However, Rice and beans have been already harvested. The end of the season is characterized by continuous postharvest activities for maize while preparing land in certain areas and planting rice and beans for season B but all the crops were affected by late rains and dry weather conditions occurred during germination and vegetative stages.

Outlook: Lack of enough water lead to poor performance of maize beans and rice which can lead to poor production, especially in the zones with late planting. Expect few regions experienced good production of beans and rice.

Advisory: As the season A ends, the post-harvest handling activities are encouraged for Maize and rice crops. There is need of a clear irrigation management strategy to support farmers while controlling water in marshlands areas. In addition, rice and maize farmers need to take into consideration joining Insurance programs to secure their production.

Southern Province: For most of the districts the season A Maize (and beans in few districts) has been harvested except in Nyanza and Ruhango districts that experienced depressed and late rainfall during September-December that lead to poor performance of Maize and Beans, others, districts received a good yield and now they are preparing land for the next season. Rice is still at planting stage in most of the marshland areas.

Outlook: Harvesting and field preparation for the upcoming season are going well despite increase rainfall in isolated areas.

Advisory: Normal condition of rainfall is expected. We encourage farmers to use the information given and avoid losses that should occur while harvesting for previous season. and prepare storage facilities, as the harvest is underway as well as the land preparation.

Western Province: The region experienced a good rain resulting in favorable conditions for beans and maize and rice production. The harvesting activities are over and the preparation of season B is ongoing.

Outlook: Farmers experienced good yield of beans, maize and rice. However, wet conditions occurred at the end of season may affect negatively the yield, resulting in loss of yield to inadequate post-harvest activities.

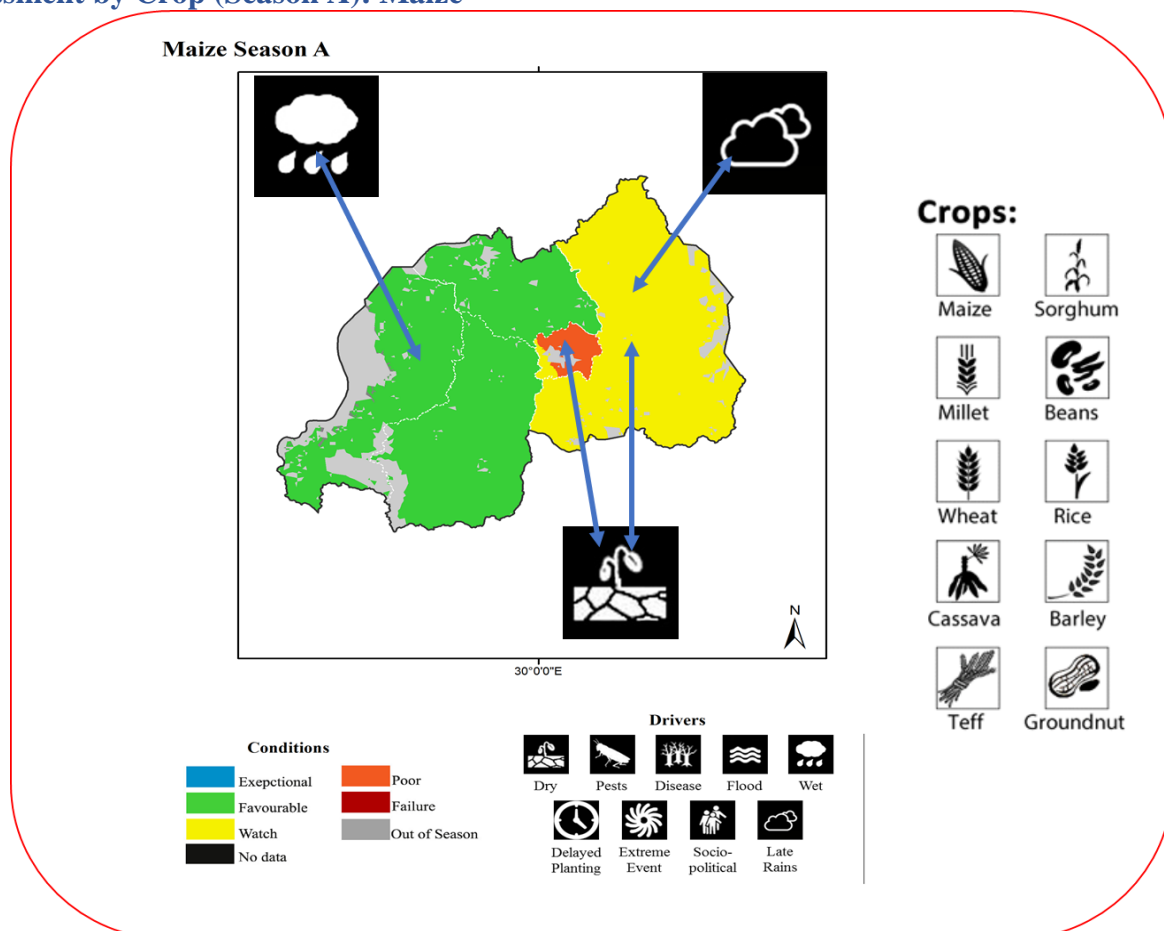
Advisory: Due to wet conditions, postharvest activities should be enhanced, acquisition of effective postharvest equipment's and respect of postharvest measures to manage the loss, which may occur. Climatic conditions are still favorable for land preparation and planting for season 2022 B hence, farmers are advice to continue the agriculture activities that contribute to the maximum growth of the crop.

Northern Province: Maize is at maturity—harvesting stage condition in certain districts (Gicumbi, Gakenke). For beans, almost all districts are in harvesting stage except in Gicumbi were heavy rain affected mature beans pods and harvesting. Rice growers only two (2) districts Gakenke and Burera cultivated rice, which were at harvesting stage and in good conditions. Normal production of rice is expected in the Northern Province.

Outlook: Overall, good yield of beans and rice is expected in all districts of the Province and farmers are required to be prepared for Harvesting and post-harvest handling.

Advisory: Good post-harvest activities are required to avoid any loss of production and a close collaboration with local authorities to assure accessibility of the market as well as strengthening post-harvest handling where necessary.

Assessment by Crop (Season A): Maize



Map showing maize conditions information in Rwanda for maize from September to December 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. Maize growth was challenged by prolonged dry spells. Farmers who planted late will have a good production due to favorable rainfall that occurred in December.

Outlook: Maize production will drop drastically in non-irrigated areas, the activities of postharvest are expected to increase maize yield.

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

In Kigali, In the beginning of the season 2022A, conditions in Gasabo, Nyarugenge and Kicukiro was poorly affected due to persistent dry conditions and late rain that happen from the start to the middle of the season. Hence, the resume of rain by mid-December 2021 accelerated the flowering and maturing stages of maize. Generally, maize and rice remain under watch.

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Outlook: Maize production for late planting region were affected by the continuous rain at the end of the season.

Advisory: Considering irrigation facilities for maize planted at hillside and farmers need to include maize marshlands under insurance scheme. Ensure that farmers whom are in

harvesting period acquire adequate post-harvest equipment to manage rain intensity across the area.

Northern Province: Maize in the North, harvesting are ongoing in most of the districts with an exception in some sector in Gakenke district where the crops are still in maturity to harvesting.

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

Advisory: Farmers are expecting support from Local government (District/RAB officials) 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: Harvesting went well in almost all districts except like Ruhango and Nyanza districts that experienced depressed rainfall during the starting of the season, which affected the planted activities.

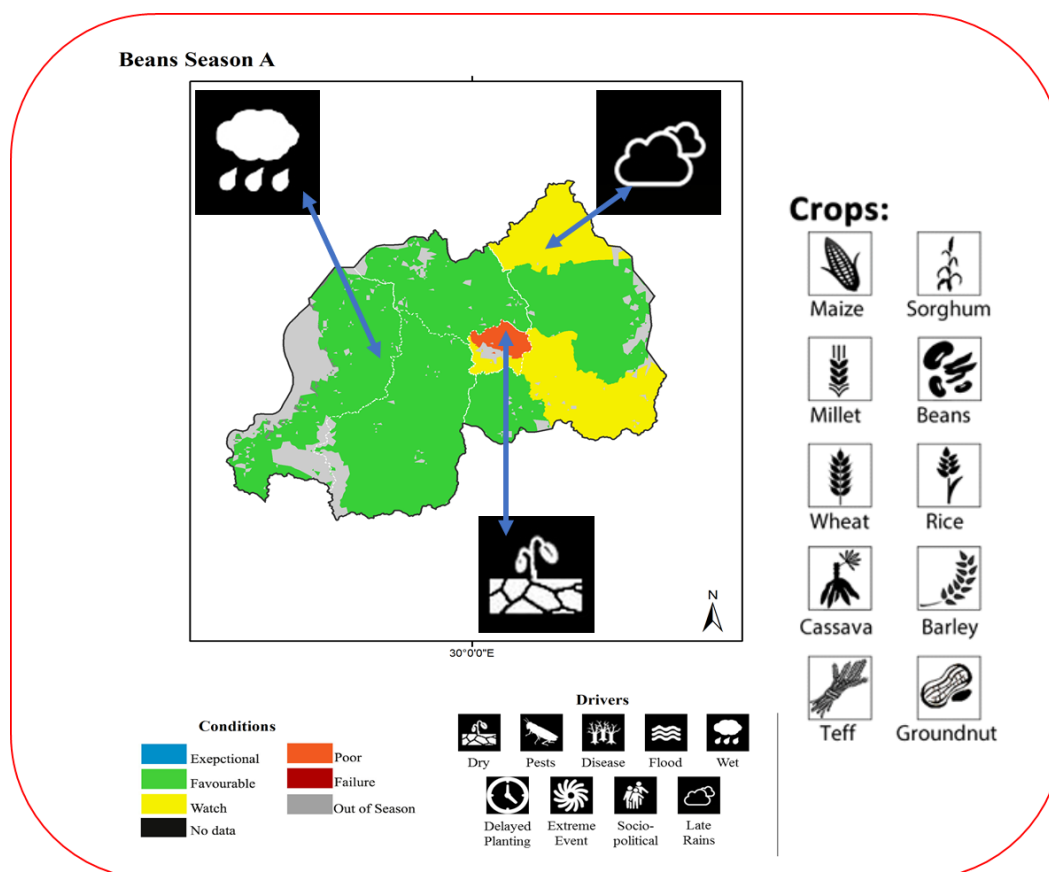
Outlook: Good harvest and normal condition of rainfall is expected.

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

Western Province: All districts have harvested maize and the production was good. The main challenge in this period is the severe rain in some parts of the region which is affecting the postharvest activities for the regions with late planting.

Outlook: As the season 2022 B started and in some parts of the western province are in early vegetative and germination stage, good production is expected if conditions remains favorable.

Advisory: Mobilize farmers to use the adequate drying Shelters, as the rain is always very intense in the region.

Assessment by Crop (Season A): Beans

Map showing beans conditions information in Rwanda for beans from September to December 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: The bean crop in most parts of the region was under watch to favorable conditions in few districts. The harvesting is over in all districts; land preparation and planting is ongoing for 2022B agricultural season.

Outlook: Harvesting beans was well conducted and the production was good in few districts and the other parts was poor. Good production is expected for season 2022 B if rain distribution remains favorable.

Advisory: Ensure farmers are planting beans for 2022 season B respecting the recommended agronomic package.

In **Kigali**, Generally, conditions were under watch across the region due to the persistent dry condition during the season

Farmers are now preparing land for planting beans for 2022 B agricultural season.

Outlook: Minimum production was observed. The production will be good for season 2022B, if conditions remain normal.

Advisory: Following agriculture recommended practices to ensure the effective land preparation and planting of beans for season B.

Western Province: In most parts of the Province, harvesting was carried well and the production was normal to above normal across the region.

Outlook: Large areas were planted compared to the last season, if the conditions continue to be favorable in season B, the production is expected to be good.

Advisory: Farmers are advised to continuously monitor their crop in order to maximize the yield production in season 2022B.

Southern Province: For the season A harvesting is almost over everywhere, farmers are preparing land and planting but in some area (Ruhango) beans were affected by dry conditions in their germination stage.

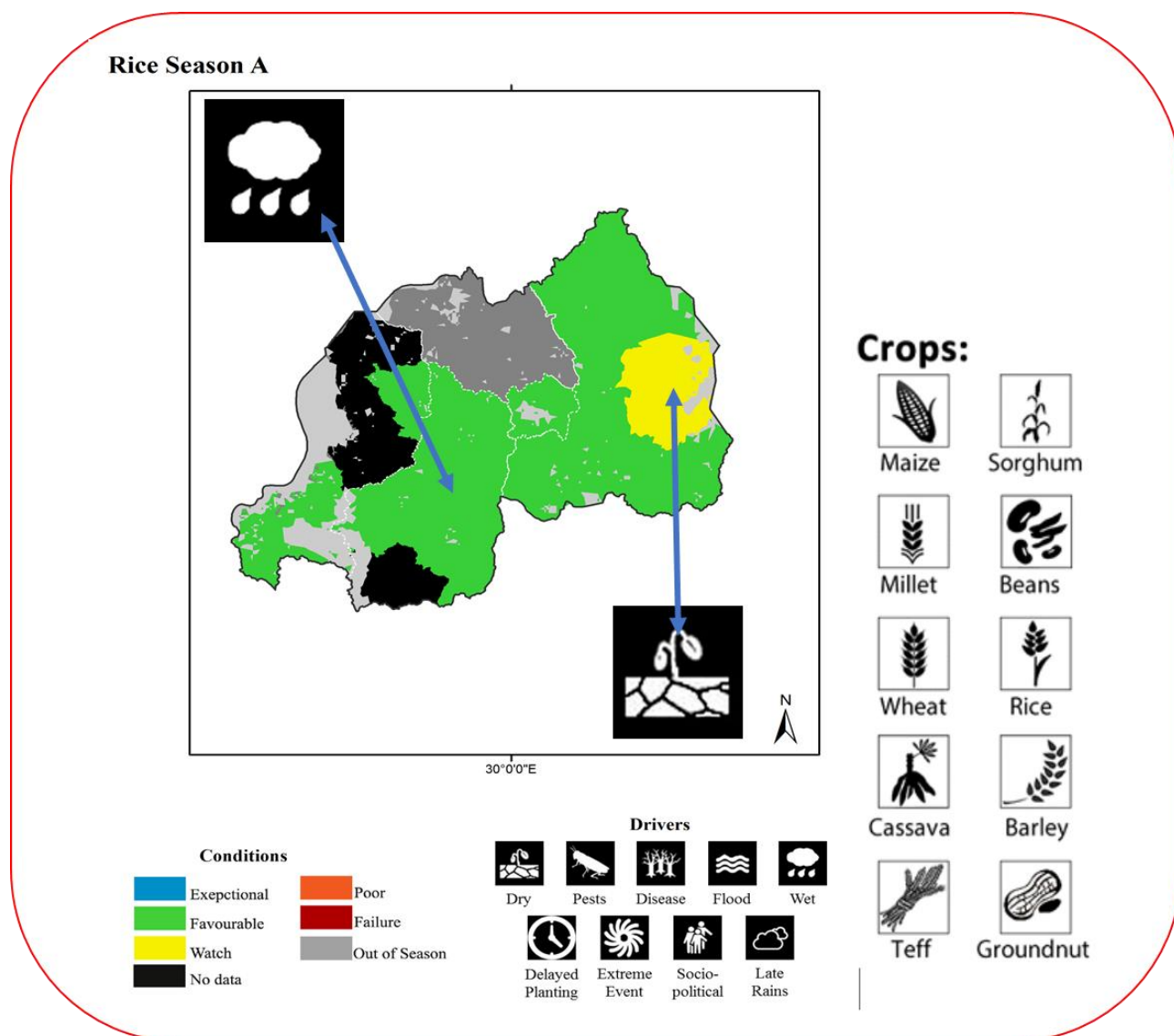
Outlook: Beans harvesting was good due to the normal climatic condition observed at the end of the season 2022A.

Advisory: Rains are expected to continue during March 2022. Post-harvest activities to protect the production are needed and preparation for the next season. Frequent monitoring and available improved seeds.

Northern Province: Beans harvesting is going well across the province and farmers appreciated the production, but at the end of December 2021, the intense rain recorded in some districts like Gicumbi district affected mature beans.

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

Advisory: Farmers are advised to a timely land preparation, weeding and available strong stakes for Season B. farmers' mobilization to register in SNS for inputs subsidies

Assessment by Crop (Season A): RICE

Map showing rice conditions information in Rwanda for Rice from September to December 2022 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 harvesting of rice went well in some consolidated land and went bad to other areas of the province like Kayanza due to persistent dry conditions and the production was poor in most parts of the region. The climate was not favorable for Rice. Currently, the irrigated land where Rice cultivated in season A, Farmers have started harvesting while preparing the land for the next season

Outlook: Conditions were not favorable due to the harsh climatic conditions observed in season 2022 A but conditions are becoming favorable at the end of season and start preparing land for the season 2022B.

Advisory: there is a need to facilitate farmers to have drying grounds and increasing number of rice factories. Also encourage farmers for effective postharvest activities.

In Kigali, Gasabo, Nyarugenge and Kicukiro districts, conditions for rice were under watch due to experienced unfavorable and late rainfall conditions during the start to mid of season where crop condition failed due to persistent dry conditions. Farmers have started the land preparation and planting of the season 2022 B.

Outlook: Rice production was below production in Gasabo, Nyarugenge, and Kicukiro due to poor rainfall distribution across the season.

Advisory: Awareness Company to sensitize rice growers to use the insurance scheme and acquire best equipments for postharvest including drying grounds, threshers, etc.

Southern Province: The rice in marshlands had a good harvest and farmers are practicing post-harvest and start preparing land for season B.

Outlook: Average harvest of rice was recorded in the south and the land preparation and planting activities are ongoing. The production is expected to be good if conditions remain normal.

Advisory: Farmers are advised to prepare drying facilities and to apply adequate inputs. The expected normal rainfall conditions in January to February 2022, farmers need to establish mitigation measures on irrigation infrastructures including rehabilitation of water drainage and canals in their 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: Normal to moderate production expected in Gakenke district slightly affected by persistent dry condition during the start of the season.

Advisory: Avail drying grounds for post-harvest and avail post-harvest equipment where necessary and help farmers during post-harvest process,

Western province: Rice production in Nyamasheke and Rusizi was under favorable conditions across the entire cropping season, and harvesting is getting over, and use of common drying-shelter is taking place.

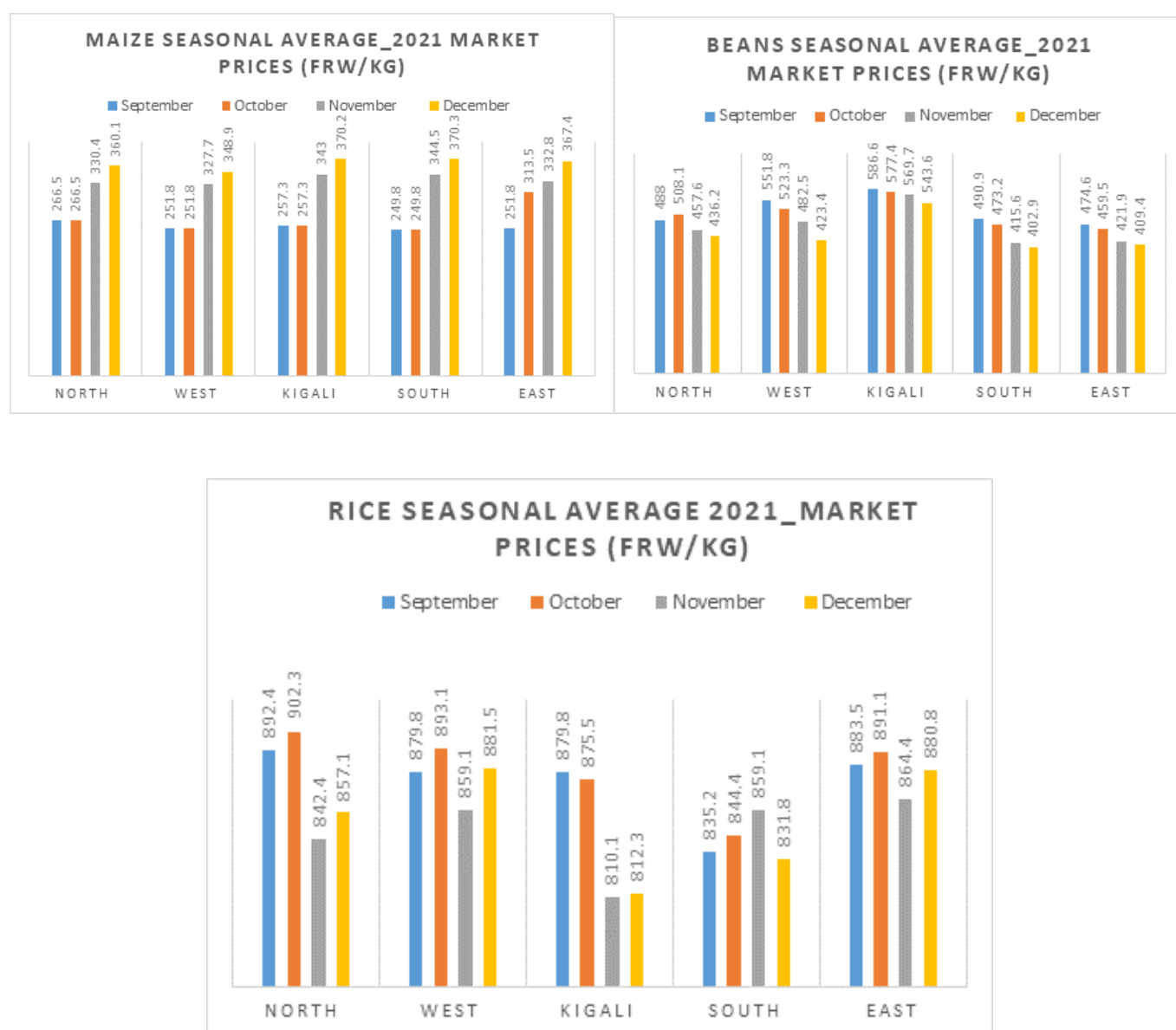
Outlook: The intensive rain was observed in the land preparation and planting period of season 2022 B. Currently, climate conditions are favorable, the maximum production is expected if conditions remain normal.

Advisory: Support farmers during post-harvest process. Avail post-harvest equipment where necessary. RAB, Districts and other stakeholders can plan for repairing the canals in sustainable manner and include the potential marshlands in the insurance scheme.

Markets and Production Trends

Tables below are showing the variations of maize, bean and rice price throughout the season 2022A from September 2021 up to December 2021, in consideration of potential markets of the country. Generally, for all crops, the highest peak of the price was observed in November and

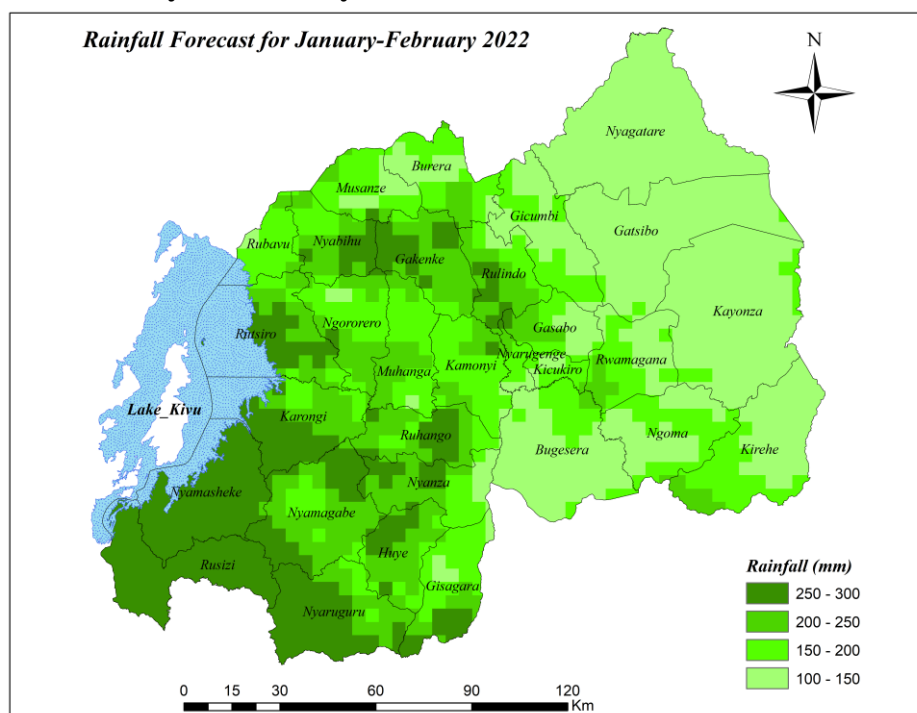
December 2021, except for rice where we observed the highest peak in September and October, as it is the mid beginning of the season where all markets experienced shortage of rice products but due to the good yields observed during Season 2022B especially for rice maize, beans as the 2022A season is still ongoing, the population where consumed the production for 2021Bseason.



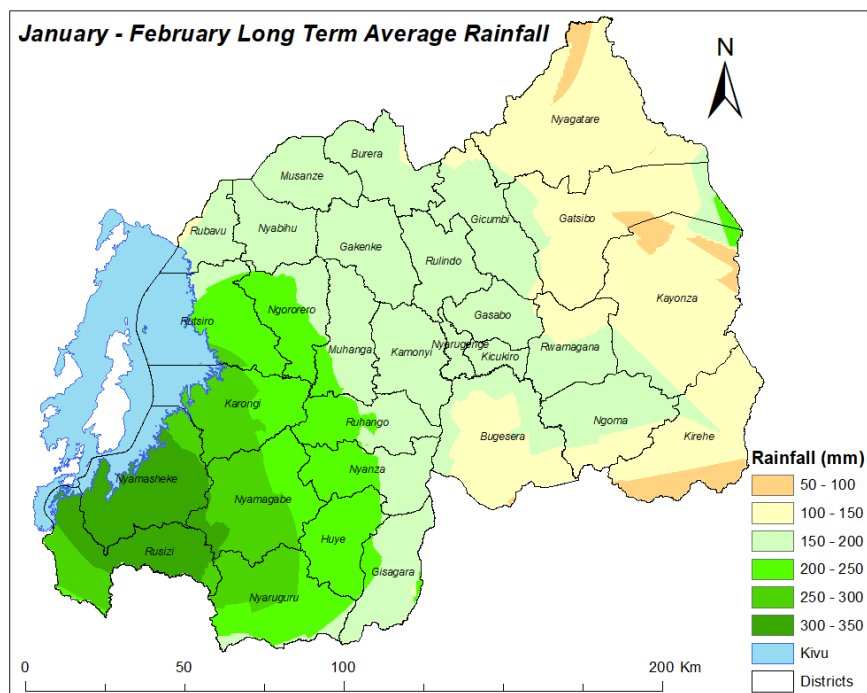
Rainfall forecast for January to February 2022 and the Long Term mean (LTM) for the same period

The expected rainfall will be within the range of Long Term Mean (LTM) and slightly above over southwestern parts of the country from January to February 2022. The expected rainfall may affect post harvest activities. Therefore, relevant authorities are advised to put in place strategies to cope with the likely aforementioned effects.

Climate outlook for January to February 2022



JF 2022 rainfall forecast (Source: Meteo Rwanda)



January to February Long-term normal rainfall

The months of January to February 2022 (JF) constitute an important rainfall period for the country. Where the climate systems indicate that there are chances of normal rains over most parts of the country.

The National climate outlook forecast for January to February 2022 rainfall indicates that the south-western parts of the country and some areas in north-western are likely to experience slightly enhanced above normal rainfall compared to other parts of the country while the remaining parts of the country will experience normal rainfall.

The expected rainfall is mostly associated with the topographic nature of the country coupled with neutral conditions of Indian Ocean Dipole (IOD) and below normal Sea Surface Temperature (SST) in the equatorial Pacific Ocean which will persist throughout JF 2022.

The rainfall outlook for different parts of the country will be as follows:






- **Rainfall ranging between 250-300 mm** is expected in most parts of Rusizi and Nyamasheke Districts, western parts of Nyaruguru Nyamagabe and Rutsiro Districts, southern parts of Karongi, Ruhango and Gisagara District, Eastern Nyabihu and Rulindo and some pockets in the north of Nyanza and northwest of Huye Districts.
- **Rainfall ranging between 200-250 mm** is expected in eastern parts of Nyamagabe, Nyaruguru, Karongi, Huye Districts, in southern parts of Muhanga, Nyabihu, Ngororero Rulindo, Burera and Gakenke Districts. The same rainfall amount is projected in the Northern part of Gasabo, northeastern part of Rutsiro and Southeastern part of Rwamagana District.
- **Rainfall ranging between 150-200 mm** is expected in most parts of Rubavu, Musanze, Kamonyi, Gisagara and Burera, northern parts of Nyabihu, Muhanga, Bugesera, Rulindo, Ngoma and

Gicumbi Districts, southern parts of Kirehe, Ngoma and Gicumbi, remaining parts of Rwamagana, Nyanza, Kicukiro, Gasabo and Nyarugenge.

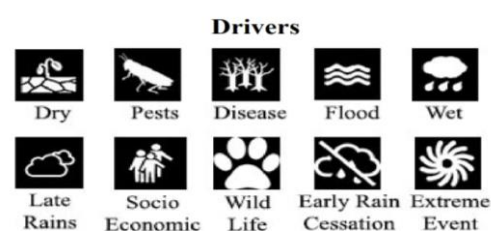
- **Rainfall ranging between 100-150 mm** is expected in remaining parts of Eastern Province (Nyagatare, Gatsibo, Kayanza, eastern parts of Rwamagana, Bugesera and Kirehe, southwestern parts of Ngoma and Bugesera, and most parts of Kirehe) and eastern parts of Gasabo Di

Terms and Definitions

Crop Condition Classes

	Exceptional	Conditions are much better than average* at time of reporting. This label is used only during the grain filling through harvest stages.
	Favorable	Conditions range from slightly below to slightly above average at reporting time.
	Watch	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.
	Poor	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.
	Failure	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

Partners



Terms

METEO	Rwanda Meteorological 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