

“ Rich or poor, young or old — every person in the world needs to eat. Safe and nutritious food provides not only life and health, but hope. Every day, billions of people harvest, process and transport food to market and to our homes.   
 — Antonio Guterres  
 UN Secretary-General

## Ensuring food systems in Jamaica in the face of climate change

A Global Food Systems Summit took place in [September 2021](#). Still, it continues to feed a dialogue to better our understanding of global food systems, which play a pivotal role in many of the Sustainable Development Goals (SDGs). For example, food systems are crucial to fighting hunger, but they also provide livelihoods to a substantial portion of the global population, including many women and youth. However, global food systems are under threat from the reverberations of COVID-19 on global distribution systems and, more importantly, from the current climate crisis.

The Jamaican food system faces many significant challenges, including low productivity and a vulnerability to extreme weather events and climate change. In acknowledging the need for action, the former Minister of Agriculture and Fisheries, [the Hon. Floyd Green stated that](#) “In transforming our food systems, we will transform Jamaica and ensure that Jamaica fulfils its Vision 2030 mandate while also ensuring that we achieve our UN Sustainable Development Goals (SDGs).”

One glaring challenge is the low level of productivity in the Jamaican agricultural sector. FAO calculates yields per hectare for different countries. For some crop types, Jamaican productivity is particularly low. The Jamaican cereal yield of 1,114 kg per hectare in 2020, for example, was among the lowest in the world. The Caribbean average is 2,634 kg/ha. For other products, the difference is not as obvious. For example, Jamaica is only slightly behind the Caribbean average for fruits and slightly ahead in the yield for vegetables.

Jamaica is however more productive than its Caribbean neighbours in pulses (legumes) and roots and tubers. However, what is worrisome is the overall productivity trend, with the yield increasing only mildly for all product groups. Only the fruit yield has increased substantially (16% between the 2000-2002 and the 2018-2020 periods), but this increase is less than it was for the Caribbean as a whole (30%). In cereals and milk production, the yield declined, and for the other groups, the yields increased by 5% to 6%.

Productivity of different food groups (kg/ha), average 2018-20

	JAMAICA	BAHAMAS	DOMINICAN REPUBLIC	CARIBBEAN
CEREALS	1,129	7,854	4,605	2,603
MILK	381	360	1,591	885
FRUITS	12,672	19,720	24,705	13,530
VEGETABLES	15,871	9,662	15,199	12,267
PULSES	1,115	1,452	1,175	691
ROOTS AND TUBERS	17,347	4,816	8,921	6,676

Source: FAOStat

## Explaining the productivity challenge

The panellists were asked to opine on what may be impeding productivity growth in Jamaica. The primary challenges mentioned by the great majority of JEP members were the quality of capital and the level of technology. These are crucial factors, as pointed out by [Anne Crick](#), Senior Lecturer at The University of the West Indies, Mona, although she also highlights other important factors:

“ Many of our small farmers have very poor soil and depend on inherited knowledge. We do have systems e.g., RADA to support but from what I understand many farmers are resistant to using the techniques and technology and stick to what they know. Bad roads, infrequent transport and praedial larceny make this a thankless task for many farmers.

— Anne Crick  
 Senior Lecturer, UWI, Mona

As pointed out, infrastructure is another key element because it impedes output transportation from producers to consumers. This element is vital in inclement weather when a substantial share of output can be lost due to the inability to bring crops to market, thus driving up prices for the consumers.

The small scale of farms is mentioned by [Dr. Olaf J. de Groot](#), Senior Economist in the United Nations Resident Coordinator’s Office (UNRCO):

“ Agriculture is one of the industries most susceptible to economies of scale. With much of the agricultural sector in Jamaica being very small-scale, it is impossible to take advantage of economies of scale. Some consolidation of farms may be necessary to achieve higher levels of productivity.

— Dr. Olaf J. de Groot  
 Senior Economist, UNRCO

## What is impeding productivity? (several answers possible)



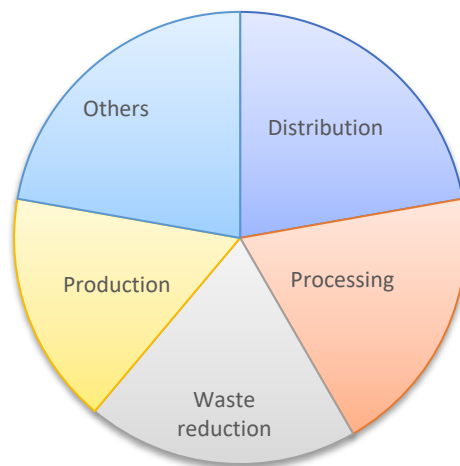
In general, [food systems are defined as](#) encompassing the entire range of activities involved in the production, aggregation, processing, distribution, consumption, and disposal of food products that originate from agriculture, forestry, or fisheries. Naturally, [as pointed out](#) by the UN Resident Coordinator Garry Conille, it is essential that resilient systems “are mindful of Jamaica’s proud cultural heritage and can contribute to economic renewal and innovation.”

With that in mind, the panellists were asked to see which food system structures would be most important for Jamaica. Four areas stood out for the respondents: distribution, processing, waste reduction and production. It is not always possible to separate the different parts of the process. Still, the respondents primarily focused on the significant difference between the amounts harvested and eventually sold: Jamaica’s losses along the value chain are relatively high. **Magdalena Anna Kropiwnicka**, International Consultant and Food Systems Expert, FAO, underscores the vital link that solid food systems have with healthy diets, as previously discussed in [JEP Discussion 8](#). She further argues the following:

“ Jamaica loses up to 30-50% of its food after harvest. This is staggering. Easily resolved by improved access to storage, transport, distribution, marketing. This could also contribute to healthier diets by encompassing more fresh produce in urban diets.

– **Magdalena Anna Kropiwnicka**  
International Consultant and Food Systems Expert, FAO

### Pivotal areas for strengthening food systems



### Climate change already changing farming in Jamaica

In addition to low productivity, climate change is the elephant in the room. Climate change will affect Jamaican agriculture through extreme hurricanes, increasing drought conditions, higher temperatures, and rising sea levels. A collaboration between the Government of Jamaica, the UN Environmental Programme (UNEP) and the European Union has provided [a range of suggestions](#) for Jamaican agriculture to adapt in preparations for the increasing impact of climate change.

While recognizing that not all the JEP panellists are necessarily agricultural production specialists, the question was asked which suggestions were considered most important for the country. Mainstreaming climate change into agricultural management received the most considerable support from the panellists. This focus is a high-level approach requiring skill development for farmers and broad support throughout the value chain. Another vital issue is to improve the climate sensitivity of agricultural infrastructure, primarily through better water management systems.

**Dr. Patrice Whitely**, Lecturer in the Department of Economics at The University of the West Indies, rightly points out that, in addition to water storage during droughts, more erratic weather patterns are associated with climate change:

“ Flooding, in particular, has the capacity to do significant damage to crops.

– **Dr. Patrice Whitely**  
Lecturer in the Department of Economics, UWI, Mona

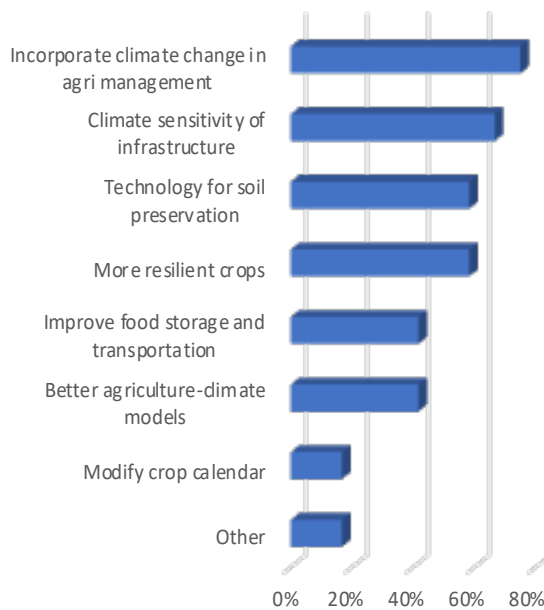
The previous question shows the broad areas of attention for how Jamaican agriculture can better incorporate climate change. The final question to the panellists asks about specific government action in this area instead. In 2015, the Government of Jamaica proposed a [Climate Change Policy Framework](#), which includes pursuing Climate-Smart Agriculture (CSA). The CSA approach should address food security and climate change simultaneously whilst contributing to greenhouse gas mitigation. A key area identified by the panellists is the provision of better services (likely through RADA) to farmers to significantly encourage building resilience, including through the idea of increasing farm diversification.

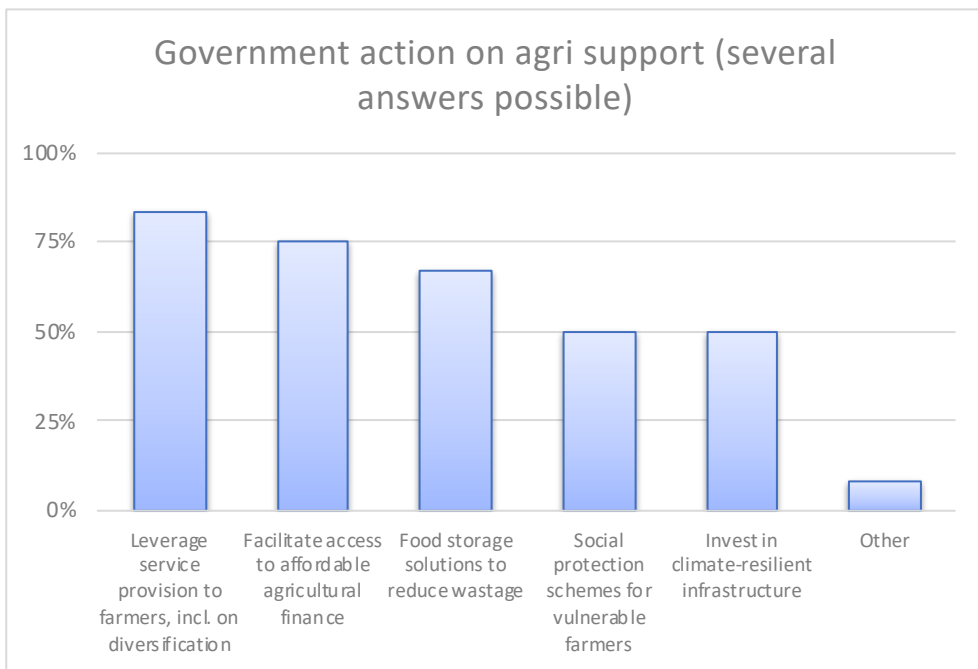
Keenan Falconer, Research Economist, UWI Mona, supports a broad package of financial support to the entire food system that will support Jamaican farmers under threat from climate change:

“ The Government did well recently to introduce an insurance scheme for farmers and fisherfolk which provides coverage for adverse weather events in the form of rain, wind and drought. Expanding the parameters of the facility and the risk premium over time could be considered to increase resilience, especially in light of an expected worsening of climatic conditions. During the 2021 hurricane season, for example, crop and livestock losses were estimated at almost \$2 Billion JMD, affecting over 20,000 farmers.

– **Keenan Falconer**  
Research Economist, UWI, Mona

### Key areas of focus to incorporate climate change into agriculture (several answers possible)





## Conclusion

Global food systems are a critical part of everyday life, which receive only minimal attention. In Jamaica, specifically, the agricultural sector is not only responsible for 16% of employment, but it also provides substantial earnings through exports. Most importantly, the agricultural sector provides the food we all eat every day.

Nevertheless, the Jamaican agricultural sector faces some substantial challenges, especially related to its low level of productivity. More significant investment in technology and skills and the pursuit of economies of scale would help increase the sector's level of productivity. This recommendation is critical in the light of climate change, which has already started affecting agricultural output in the country, mainly through the deterioration of infrastructure.

In the future, it will be crucial to provide more support to farmers to improve their agricultural management skills further and teach them to consider the changing climate. Improving access to finance for farmers will support those who want to invest in upgrading technology and infrastructure and thus increasing climate resilience.