

# BESIDES PRESERVING AND VALORIZING PLANT GENETIC RESOURCES, WHAT ARE THE OTHER MAJOR CHALLENGES WITH REGARD TO DIVERSIFYING FOOD PRODUCTION AND ENHANCING FOOD SECURITY? WHAT ACTIONS ARE NEEDED TO ADDRESS THEM?



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## Conserving Crop Biodiversity

The world population is expected to grow to over 9 billion by 2050. In order to feed 9 billion people, the world's agricultural production must increase by 70%. In the coming years, we will need to produce more food, under increasingly challenging conditions and a growing world population. We will need to build more sustainable crop production systems. We will need to develop new crops that are more resilient, more productive and better able to cope with the impacts of climate change.

To enable us to do so, we need to ensure the continued conservation and availability of our precious diversity of plant genetic resources, and to make certain that they are easily accessible and available to everyone involved in our global food system, in all parts of the world. We must also ensure that we have and maintain crop biodiversity. In the last century alone, crop diversity has suffered unprecedented genetic erosion. Consequently, certain unique attributes that cultivated plants have acquired through selection by many generations of farmers and breeders all over the world – their ability to survive hot summers or cold winters, to thrive in dry conditions or in areas prone to flood, to withstand pests and disease – have been lost forever. We must stem this loss. Fewer crops are feeding more people worldwide – and that's not good. For instance, nearly half our calories come from just 3 crops. This needs to change. Biodiversity in farmers' fields not only ensures a balanced food basket, but acts as a sort of insurance policy, so that if one crop fails due to climate impacts or plant diseases, others are still available to provide us nutrition and succor. Thus, diversifying our crops and food production will help achieve food security for us and future generations.

The International Treaty works to conserve, share and sustainably use the world's precious plant genetic diversity, so that current and future generations can continue to reap the benefits nature has provided.

Diversifying food production implies the movement of germplasm across countries to test new crops in other countries/on other continents. This is not without risks as pathogens and pests may be transferred together with the vegetal material or seeds. Many disasters have occurred in the past due to the introduction of pathogens together with new crops in a new habitat. To avoid this, rules and regulations have been developed in such a quantity and complexity that today it is very difficult to export-import germplasm across countries – a fact that often prevents the use of germplasm and the diversification of crops.

It should be considered to redefine the whole system, including more efficient and easy regulations that facilitate the exchange of materials, and at the same time, to develop efficient quarantine measures that avoid the release of pathogens. Unfortunately, this seems extremely difficult for many reasons and it continues being one of the main constraints to diversify food production.



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We are facing many challenges with regard to food production or food security. Besides climate change, agriculture and consumers will demand new types of varieties that are suitable for automated harvesting (farmer) have a longer shelf life (consumer) and can grow with a reduction in the application of pesticides or fertilizers (society).

To be able to breed for these varieties we need to be able to identify the genes and variants of these genes that hold the key to the success of agriculture of the future.

Plant genetic resources can be best preserved if they are widely used to develop food and non-food products. The creation of value chains from GenRes is a major opportunity to preserve these resources, diversify agricultural production, create new avenues for farmers' income and contribute to more diverse and healthy diets.

It also meets increased consumer interest for regional products and short supply chains. To capitalize on these opportunities farmers need to have better access to local varieties and high-quality seeds as well as engage in new partnerships with consumers and the food industry at regional level. Policies have a significant role to play in view of strengthening farmers' role as GenRes managers and their position in (food) value chains. At European level, on-going discussions on the next round of European policies post 2020 provide opportunities to tackle these issues and help lifting the status of genetic resources across different policy domains (e.g. agriculture, environment).



The views expressed in this interview are strictly personal and do not represent the views of the European Commission.



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