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REGINE ANDERSEN

Seed security in the wake of the Corona crisis: The role of emergency aid and development cooperation

Key points

- The COVID-19 crisis may double the number of people suffering from hunger globally.
- An important factor is reduced access to seed and other input factors for years to come.
- Emergency seed aid may cause more harm if it is not determined by local needs.



«Seed security is key to food security also in times of crises»



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‘Seed security exists when men and women within the household have sufficient access to quantities of available good quality seed and planting materials of preferred crop varieties at all times in both good and bad cropping seasons.’

FAO, 2016

The COVID-19 pandemic constitutes a serious threat to humanity – not only because of the escalating death tolls expected particularly in developing countries, but also due to the implications of the restrictions imposed for fighting the spread of the virus. As a result, the global economy has been pressed into severe recession, and livelihoods in many parts of the world are being ruined. Moreover, the expected secondary effects on food security in developing countries are alarming.

The effects of the COVID 19 crisis for food security

According to a World Bank Report (Calderon et al. 2020), the COVID-19 pandemic may create a severe food security crisis in Africa. Local agri-food supply chains are already experiencing disruptions, including reduced access to inputs and services, reduced labour movement and transport as well as roadblocks, and reduced liquidity, deteriorating food production and supply – and this is probably just the beginning.

The situation in Africa is similar to that in many developing countries around the world. FAO (2020) expects that the worst effects of the current pandemic will be experienced by the poorest and most vulnerable groups in the world – this includes subsistence as well as smallholder farmers. The lockdowns imposed by governments around the world have made it difficult, often impossible, for farmers, farm labourers, farm service providers, extension officers, input suppliers, processors and other actors in the food system to perform their tasks, according to FAO. These constraints may result in failure to plant crops at the right times, or to use the optimal quality and quantities of necessary inputs like seeds, fertilizers and pesticides.

As a result, the expected crop produce may not be readily available where and when it is needed. While some groups may experience brief setbacks, the effects on vulnerable smallholder farmers will be longer-lasting. In the medium term, the impacts of these disruptions will be felt in scarcity of inputs and in reduced purchasing capacity of farmers for inputs and other foods that they do not produce, the FAO report concludes.

The Food Security Information Network (2020) and the UN World Food Programme (WFP) (2020) come to similar conclusions. The COVID-19 pandemic could almost double the number of people suffering acute hunger, pushing it to more than a quarter of a billion by the end of 2020. Indeed, the WFP has indicated that, for many developing countries, the economic consequences will be more devastating than the disease itself.

Seed security as a key to food security

Access to adequate seed and planting material are crucial to achieving food security. Crops and varieties should meet the dietary and nutritional needs and preferences of local communities, be resilient to climate change, pests and diseases, and not require inputs that farmers cannot buy or otherwise readily acquire. Further, seed must be accessible in time for planting, at affordable prices.

A major challenge in many developing countries is rapid climate change, widely recognized as a factor that may further exacerbate poverty in countries and regions where poverty levels are high (IPCC 2018, Leichenko and Silva 2014). The diversity of plant genetic resources for food and agriculture is crucial to the ability of farmers to adapt their food production to the effects of climate change, like rising temperatures, droughts, floods,

pests and diseases (United Nations 2009, FAO 2015). From local crop diversity, farmers themselves can identify which plants are more resilient to the effects of climate change. They may also develop them further through seed selection or participatory varietal selection schemes. Local crop diversity is continuously adapting to changing environments, and provides small-scale farmers with a means of spreading the risks of crop failure.

Thus, conservation, sustainable use and improvement of local crop diversity are all increasingly important in enabling small-scale farmers in developing countries to adapt food production to the effects of climate change, thereby improving their prospects for food and nutrition security and livelihoods (FAO 2015).

Due to the disruptions following from the COVID-19 pandemic, farmers may have to become increasingly self-sufficient in seed, using more farm-saved seed, locally produced certified or quality declared seed, and local exchange. Promoting seed security in the wake of the Corona crisis will require strengthening local seed systems.

Seed emergency aid may undermine seed security

Seed interventions are the major agricultural response during the emergency and recovery phases of humanitarian relief, according to an article by Sperling and McGuire (2010).

However, seed emergency aid may undermine local seed security and thus aggravate food security. Sperling and McGuire document that seed aid can pose risks to farmers by providing the wrong crop or variety for the area (e.g., varieties that mature too late, that are not adapted to local environmental stresses or not preferred as food), providing seed too late for farmers to sow, and/or spreading serious new weeds and new diseases or pests.

It is essential to understand local seed systems and the diverse ways in which farmers obtain seed. Also important is knowledge of agro-ecological zones, seed health, seasonality of the material supplied, locally accepted quality standards, and the role played

by certain crops and varieties in local farming systems. Farmers' knowledge is invaluable here. Modern varieties are not necessarily adapted to the agro-ecologies or low-input conditions of seed-aid recipients. Key choices on what to supply are often determined by donor demands or collaboration with commercial seed suppliers, and may be inappropriate. Importantly, seed already adapted to local conditions is often available locally, according to Sperling and McGuire (2010).

Safeguarding seed security in emergency situations

The International Centre for Tropical Agriculture (CIAT) has published a seed system security assessment guide (Sperling 2008) that offers a seven-step method for assessing the security of farmers' seed systems in situations of acute or chronic stress. It guides the identification of:

- 1) zones or areas for possible intervention
- 2) normal status of local crop and seed systems
- 3) broader effects of the disaster on these farming systems
- 4) needs-based goals for agricultural relief and recovery operations
- 5) expected post-crisis functioning of the seed channels
- 6) any chronic stresses that require longer-term solutions
- 7) appropriate short- and longer-term responses, based on the analysis of priority constraints, opportunities and farmers' needs.

An evaluation published in *Disasters* found that following this guide enables the gathering, validating, and sharing of useful data to inform appropriate humanitarian seed response in emergency situations (Byrne et al. 2013).

Promoting seed security in development cooperation

The COVID-19 crisis demonstrates how pandemics may fundamentally change societal structures for shorter or longer periods, necessitating greater reliance on local resources, including on seed. The effects of climate change have shown the importance of locally adapted and adaptable crop varieties

Promoting seed security in the wake of the Corona crisis means strengthening local seed systems.

to seed and food security. These two major challenges to global seed and food security call for a greater focus on strengthening the resilience of local seed systems through national policies and development cooperation.

The International Treaty on Plant Genetic Resources for Food and Agriculture and the FAO Second Global Plan of Action on Plant Genetic Resources for Food and Agriculture provide the international framework and proposed measures of relevance for development cooperation in this regard (see also Andersen 2008). The FAO guide for Seed Security Assessment (FAO 2016) can serve as a useful tool for directing development cooperation aimed at strengthening local seed systems.

Development cooperation agencies with valuable experience of working with local partners to strengthen local seed systems and crop diversity may provide lessons for others. For example, the Norwegian Development Fund has, together with local partners, supported community seed banks in a range of developing countries. Popular local crop varieties have been conserved and enhanced for resilience to climate change, for better yield and other needs through participatory varietal selection or plant breeding. This, together with capacity building, has substantially contributed to seed and food security, and improved livelihoods (see e.g. Andersen 2019). Many community seed banks have begun providing seed to local farmers who are affected by corona restrictions. Scaling up such models is a promising avenue for seed and food security in the wake of the Corona crisis.

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Senior Research Fellow (Dr. Polit)
Regine Andersen
randersen@fni.no

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Front page photo: Red local variety of durum wheat that is resilient to climatic stress and provides high yields of great nutritional value, improved through participatory varietal selection at Ejere Community Seed Bank, Ethiopia.
Photo: Regine Andersen

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Fridtjof Nansens vei 17 | P.O. Box 326 |
NO-1326 Lysaker | Norway |
Telephone (+47) 67 11 19 00
E-mail post@fni.no | www.fni.no

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About the author

Regine Andersen is a senior research fellow at the Fridtjof Nansen Institute and holds a doctoral degree in political science. She is specialized in the governance of plant genetic resources for food and agriculture.



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