

To: Special Rapporteur on the Right to Food, Ms. Hilal Elver
From: Quaker United Nations Office (QUNO)¹
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Subject: Input on the Right to Food in Humanitarian Contexts

Agricultural Biodiversity, Small-Scale Farmers, and Informal Seed Systems

Agricultural biodiversity is a critically important subset of biodiversity, upon which all of humanity depends. This diversity - including genetic, species and ecosystem diversity as well as the diversity of small-scale farming communities themselves - is what enables our global food system to adapt and respond to change at a macro level, including conflict and climate change. Small-scale farmers are farmers' varieties and wild species related to domesticated crops are the dynamic pool of genetic diversity that farmers and the global community will continue to rely on for their resistance, tolerance and immunity to stresses, including the stress caused by conflict.² As a product of human management and ingenuity, the conservation and development of agricultural biodiversity must necessarily involve the participation and support of small-scale farmers at the heart of its management.³

As noted above, one component of the agricultural biodiversity is the genetic diversity, with crops this is mostly contained in seeds. Informal seed systems ensure that farmers have timely and sufficient access to quality, locally adapted and affordable planting material. Informal seed systems remain the primary source of seed for most crops throughout the world; it is estimated that eighty percent of all seed in Africa is produced in the informal system.⁴ The United Nations Food and Agriculture Organization (FAO) asserts that this is likely to remain the case for the near future.⁵ These systems are important sources of social cohesion and therefore important for sustaining peace.

As part of agroecological approach to producing food, small-scale farmers and agricultural biodiversity from the genetic to ecosystem level can contribute to ecosystem services, such as nutrient cycling, water purification and carbon sequestration.

At least 70% of the food we consume is produced by the world's 1.5 billion small-scale farmers and in some parts of the developing world, they produce 100% of the food consumed. In

¹ QUNO staff collaborate amongst our programmes of Peace and Disarmament, Human Rights and Refugees, Climate Change, and Food and Sustainability to explore opportunities for cross-cutting approaches that more accurately address the complexity of systems of injustice and violence. For more information on our work, please visit our website: <http://www.quno.org/areas-of-work> (last accessed March 20, 2017). This contribution is from Nora Meier, Diane Hendrick and Susan Bragdon.

² Small-scale farmers also account for 50-87 percent of the food that we eat today and provide crucial services to the health of our ecosystems. Food and Agriculture Organization of the United Nations (FAO). (2014). *The State of Food and Agriculture. Innovation in Family Farming*. Rome, Italy. Available from: <http://www.fao.org/3/a-i4040e.pdf> (last accessed March 21, 2017).

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⁴ Byerlee, D., De Janvry, A., Sadoulet, E., Townsend, R., Klytchnikova, I. (2007). *World Development Report, 2008. Agriculture for Development*. Washington, DC: World Bank. Louwaars, N.P., De Boef, W.S. (2012). *Integrated seed sector development in Africa: a conceptual framework for creating coherence between practices, programs, and policies*. *Journal of Crop Improvement*, 26: 39-59.

⁵ Commission on Genetic Resources for Food and Agriculture. *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*. (2010). Rome, Italy. Available from <http://www.fao.org/docrep/013/i1500e/i1500e.pdf> (last accessed March 20, 2017).

addition to being essential for the resilience and stability of agricultural production systems, being central to agroecological production methods that does not harm planetary health, agricultural biodiversity is fundamental to the livelihoods, health and nutrition of billions. Dietary simplification starts with reducing the diversity that is produced and is linked with both under-nutrition and obesity and the rise of non-communicable diseases such as heart disease and diabetes. The International Panel of Experts on Sustainable Food Systems reviewed a growing body of evidence and concluded that these systems have huge potential to succeed in reconciling concerns such as food security, environmental and livelihood resilience, nutritional adequacy and social equity.⁶

There is only one conclusion: feeding and truly nourishing humanity in the face of an increasing number, and unpredictability of stressors, including conflict, depends on the world's small-scale farmers maintaining and developing agricultural biodiversity.

Threats to Agricultural Biodiversity and Informal Seed Systems in Normal Times

The expansion of *industrial agriculture*, the system of chemically-intensive and fossil-fuel dependent food, featuring large single-crop farms and animal production facilities, threatens farmers' seed systems. Farmers have financial incentives to replace their diverse mixtures of varieties with single high yielding ones; and diverse mixtures of crops with staple crops with high export value and greater demand on international markets. Improved varieties can yield immense public benefit. However, the displacement of on-farm diversity, loss of associated knowledge and the abandonment of traditional farming practices erodes the capacity to adapt. Farmers who rely on informal seed systems will likely face increasing challenges in sourcing the diversity they need.

Industrial agriculture is also a major contributor to anthropogenic *climate change*, which poses significant threats to global food production. Methane gas emissions from livestock and rice production, nitrous oxide from fertilized lands, and the loss of carbon capture associated with tropical deforestation are the largest contributing factors.

Many of 1.5 billion small-scale farmers in the world occupy marginal lands and are feeling the effects of climate change first. Many are landless and without access to affordable credit and social supports. Thus, while they are immensely valuable for the ingenuity they host and diversity they represent, they are a highly vulnerable population. Conflicts mainly affect rural populations, having a huge impact on food and agricultural production and smallholder livelihoods.⁷ The paradox that small-scale farmers are often the most food insecure population while contributing the most to national food production is likely to remain, and even be exacerbated in an era of climate change.

⁶ IPES, June 2016 From Uniformity to Diversity. Available at: http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf (Last accessed March 22, 2017).

⁷ FAO and Peacebuilding: Supporting Peace through Food Security and Resilience. *FAO 2015 I4348E/1/01.15*.

Agricultural Biodiversity and Informal Seed Systems in Emergency Contexts

During normal times, a range of agricultural biodiversity allows farmers to spread risk and to become resilient to shock and adapt to changes, which often translates into more nutritious diets. These are key issues when people live from what they sow and produce 50-70 percent of global food supply. However, during emergency periods the stabilizing features of agricultural biodiversity and informal seed markets become potentially even more important.⁸

Informal seed systems prove key for seed security across periods of instability, including drought, flood, and civil strife.⁹ Informal markets offer farmers flexibility to choose crops and varieties in response to immediate, and possibly changing, production and economic opportunities and are an important secondary source of seed security, in particular for the vulnerable. Moreover, farmers' freedom to experiment with, save, re-use and sell seed has underpinned thousands of years of agricultural innovation, including the development of locally-adapted varieties and the maintenance of on-farm biodiversity.¹⁰

Aiming to help farmers continue with crop production in the short-term and reduce vulnerability to future stresses, *emergency agricultural assistance* seeks to accelerate farmers' recovery from crises. The most common example of this type of assistance is *emergency seed aid*. The latter targets farmers' seed security, helping them secure access to sufficient and desirable planting material in time for sowing.¹¹

There are two predominant approaches to emergency seed aid. The *direct approach* generally assumes a 'lack of available seeds' and therefore directs to obtain and distribute seed directly to beneficiaries. The *market-based approach* on the other hand, assumes a 'lack of access to seeds' as the main constraint and therefore distributes cash or vouchers to farmers to purchase their own seeds locally.¹²

In particular, access to genetic resources is a prerequisite for local and global food security and ensuring it, represents an important aspect of fulfilling the *Right to Food*.¹³ With regards to either approach, it is crucial for any seed intervention to not undermine functioning, local

⁸ The central need to look at agricultural biodiversity within emergency responses has been formally recognized by the Food and Agricultural Organization of the United Nations (FAO) in their Guiding Principles for Seed Relief. Sperling, L., Remington, T., Haugen, J.M. (2006). Seed Aid for Seed Security: Advice for Practitioners. Practice Briefs 1-10. Rome, Italy: International Center for Tropical Agriculture and Catholic Relief Services. Available from: http://ciat-library.ciat.cgiar.org/articulos_ciat/seed_aid_seed_security.pdf (last accessed March 21, 2017).

⁹ In different types of crises, analyses show that 20 to 50 percent of seed sown has been obtained from informal markets. In fact, evidence suggests that the latter is more important to farmers in stress periods than seed supplied from relief aid. Sperling, L., McGuire, S.J. (2010). Persistent Myths About Emergency Seed Aid. Food Policy. 35, 195-201.

¹⁰ Informal systems of exchange are often an important source of income for small-scale farmers. Endall, P. (2016). Access to Seeds: Lessons Learned from the Access to Medicine Debate. Geneva: Quaker United Nations Office. Also, "studies quantifying total seed sowed by source show that local markets provided 25-50 percent of seed following a disaster, far more than what seed aid supplied in those locations [...]." And studies suggest that seed in local markets tend to be available during crises. Sperling, L., McGuire, S.J. (2010). Persistent Myths About Emergency Seed Aid. Food Policy. 35, 195-201.

¹¹ Sperling, L., McGuire, S.J. (2010). Persistent Myths About Emergency Seed Aid. Food Policy. 35, 195-201.

¹² Local crops and seed often remain in circulation and can be accessed via markets or exchange channels. Sperling, L., McGuire, S.J. (2010). Persistent Myths About Emergency Seed Aid. Food Policy. 35, 195-201.

¹³ Endall, P. (2016). Access to Seeds: Lessons Learned from the Access to Medicine Debate. Geneva: Quaker United Nations Office.

seed systems but rather to stabilize them, in particular the channels routinely used by farmers. Furthermore, seed aid shall not alter the levels of farmers' existing agricultural biodiversity levels but rather sustain and promote it as it plays a key role in ensuring people's full enjoyment of human rights, such as the *Right to Food* and the *Right to a Healthy Environment*.¹⁴

In supporting informal seed markets and small-scale farmers and promoting agricultural biodiversity, emergency seed aid can provide an effective link between relief and sustainable development and sustaining peace and should be considered a routine complement to food aid during periods of crises.¹⁵ By reducing reliance on food assistance and food aid, which have the potential to disrupt local markets and by investing in people and the existing social and economic networks and the plant genetic resources they manage, the humanitarian food response system can become more adaptive.

Link to Sustaining Peace

The role of agriculture and food and nutrition security in humanitarian contexts is complex and multi-layered holding great potential to create or exacerbate conflict or to heal and rebuild families and communities. Humanitarian contexts may be the consequence of destructive conflict and many situations of protracted conflict challenge distinctions between humanitarian, development and peacebuilding approaches. Whether conflicts or natural disasters have caused or contributed to the humanitarian crisis there is a need to approach the issue of food and nutrition security in these contexts with a conflict sensitive approach. Decisions on strategies and processes may lead to differential impacts leading to inter-group tension, run counter to cultural norms or reinforce disadvantages faced by marginalized groups.

Rehabilitation of agricultural systems has also, however, great potential for cooperation across identity group divides contributing to re-weaving the social cohesion required in order to sustain peace and foster resilience. Informal seed exchange systems are part of this and as with any intervention in a complex system there are many ripple effects. Interventions intended to support agriculture and food and nutrition security could be designed with peacebuilding aims in mind as advised in Article 9 of the CFS Agenda for Action in Protracted Crisis. The potential for healing and reconciliation within this sphere is great given the deep socio-psychological significance and impact associated with growing food and engaging in common livelihood activities.

In an insightful and comprehensive paper produced for the High level Expert Forum on Food Insecurity in Protracted Crises in 2012, Sue Lautze et al¹⁶, call for a greater emphasis on four aspects of the relationships among agriculture, conflict and stability and related implications for food and nutrition security:

¹⁴ See also QUNO's written contribution to Special Rapporteur John Knox' report on biodiversity. Available from: <http://www.quno.org/resource/2016/9/contribution-special-rapporteur-john-knoxs-report> (last accessed March 21, 2017).

¹⁵ This complementary concept has become even more important in recent time as climate change-related stresses and other shocks, such as 2008 food price crisis, are on the rise. Sperling, L., McGuire, S.J. (2010). Persistent Myths About Emergency Seed Aid. *Food Policy*. 35, 195-201.

¹⁶ http://www.fao.org/fileadmin/templates/cfs_high_level_forum/documents/Agriculture-Conflict-Stability_Lautze_01.pdf

1. Conflict prevention through agriculture
2. A protection agenda for agriculture in protracted crises
3. The regeneration of the fabric of societies through agriculture during and after protracted crises
4. A robust knowledge management and research agenda

They argue that what is needed is “a paradigm shift in strategies for agriculture and food security for at risk populations in protracted crises. Such strategies should be based on a deep analysis of conflict and its impact on agriculture, as well as the impact of agriculture on the dynamics of violence and peace. This is important for more complete engagements with the breadth of dimensions and the full meaning and roles that agriculture represents in societies, from economic development to individual well-being.”

This short but comprehensive paper presents wide-ranging and evidence-based arguments for greater attention to the prevention and sustaining peace dimensions of agricultural, food and nutrition interventions in protracted crisis/humanitarian contexts.

Moving forward – Conclusion/Recommendations

Theoretical work and empirical analyses substantiate the many ways in which food insecurity can trigger, fuel, or sustain conflict.¹⁷ Conflict can lead to deterioration of the economy and strain livelihoods, cause rising food prices, and debilitate agricultural production. Conflicts may become protracted in part as a result of inability to deal with unresolved food crises and breakdown of systems. Protracted conflict challenge distinctions between humanitarian, development and peacebuilding approaches. It is important for humanitarian aid to be cognizant of the agricultural systems (including social, cultural and biological components) that have been displaced to ensure socio-culturally and biologically appropriate recovery. This note uses seed aid as an example of how a component of emergency response can be implemented so as to enable restoration of farmers’ seed systems and seeds. Disbursements of seed whether large or small can be monitored easily, community and other genebanks can be utilized and farmers’ knowledge nurtured if awareness is built. This will be challenging but of particular importance in protracted crises.

Humanitarian responses, peacebuilding and conflict resolution need to combine with efforts to restore and support resilient rural communities. Humanitarian assistance must be cognizant and supportive of the rehabilitation of the knowledge and practices of small-scale farmers, the reinstatement of eroded or lost agricultural biodiversity, and support of the rural communities in general. As noted above, resilience is central to any sustained response to food insecurity in crises or crises-prone situations and small-scale farmers and agricultural biodiversity are central to resilience. Thoughtful and targeted rehabilitation is therefore necessary to build and consolidate peace while contributing to food security and rural development after a humanitarian crisis has subsided.

¹⁷ From *Harvesting Peace*, p. 4.