S.2 Farmer Seed Networks - Promoting inclusive seed systems for equitable livelihoods and the protection of human rights

1. What, in brief, is the solution?

This solution sees the establishment of networks (national and sub-national) for the advancement of inclusive and pluralistic seed systems. Organizational networks that manage seeds are critical for ensuring sustainability and productivity in food systems throughout the world. In particularly Farmer Seed Networks – which transfer seed through farmer-to-farmer gifting, swapping, bartering, or purchase, and also through trading or sale which occurs outside of the commercial seed sector and formal regulation – are key to sustainable and equitable livelihoods. The planting material flowing through such networks comes from a range of sources, including farmers' own fields and gardens and those of other farmers (or farmer or community groups – often called 'community seeds), local or district markets, NGOs and foundations, national and international agricultural research centres, and agro-dealers and other commercial seed suppliers. Literature often refers to such networks as part of 'informal seed systems' through which local seed varieties flow – in contrast, and often in opposition, to 'formal seed systems' which convey improved, certified seed to farmers (Biemond et al., 2013a). But permeability and interaction exist between these systems and farmer seed networks can take a variety of forms. They are broadly social networks that emerge through seed transfer events and they have vastly differing governance structures. In some situations, these seed events do not or cannot take place and this precludes the safe, affordable, and equitable transfer of seeds. This solution addresses this vacuum by establishing inclusive networks so that farmers can engage with each other in the interests of local food security and sovereignty and of equitable livelihoods.

2. What was/were the source(s) from which this solution emerged?

This solution has emerged from discussions within AT4, between AT1 and AT4, and with peers – and in dialogues in the context of the summit. The solution is also based on published learning and evidence and on the need for more solutions that address the agency of individuals and collectives in local food systems, regardless of macro-economics.

3. What problem is it trying to address within food systems?

Seeds are the basis for almost all land-based food systems and without an adequate supply of good quality seeds, with the required traits, these systems will be unable to deliver the quantity and quality of food we require to meet the nutritional needs of society. Despite the centrality of farmer seed networks to solutions on challenges ranging from seed sovereignty and rights to sustainability and biodiversity, the roles and potential of these networks are poorly understood and inadequately supported. Support to farmer seed networks (be they local or territorial or specific seed- or market-based) is grossly inadequate and a failure of agricultural sector development. Making seed available for the wide range of crops and varieties farmers may desire is therefore the food systems challenge that this solution addresses. In many countries, the formal private sector routinely focuses on predominant staple crops (such as maize) and key horticultural crops, and the formal public sector can only partially fulfil gaps in other majority crops to serve the producer base. Commercial certified seed production is limited by market forces to those crops that have high multiplication rates and good seed-to-grain price ratios as it is difficult to cover the costs of producing fully certified seeds for crops with low multiplication rates and OPVs. Commercial seed production is also limited in many countries by bottlenecks in the supply of Early Generation Seed.

While some farmers may buy, for example, hybrid maize and some vegetable seeds from the formal sector, many rely on local grain markets and saved seeds to supply most of their legume seeds. Though local markets meet a clear need, the use of *grains* as *seeds* is inherently unreliable and many farmers thus require a pluralistic seed sector to meet their requirements. These systems should be underpinned by farmer networks. A pluralistic seed sector involves large, small, medium and cooperative commercial seed producers producing cash crop seeds, for example; small and medium enterprises and cooperatives producing quality declared (QDS) legume and niche variety seeds; and farmers' rights to own, save and exchange traditional varieties protected by law. Notwithstanding extensive and comprehensive formal sector supply in some cases, there are gaps between seed availability, and the demand for seed (including heritage breeds and varieties) of a diverse set of crops that farmers may want and need. In particular, there are significant gender-based gaps in supply. Women have differing preferences and needs than men, for different reasons and at different times of production seasons, for example, yet supply often fails to identify and respond to these differences. Decentralized seed production or small scale seed enterprise, which give attention to these dynamics (through facilitating availability of neglected/orphan crops or other crops high in particular nutrients or with important socio-cultural or local economy benefits – or simply increasing access by women to resources and support) are critically important for sustainable and productive local food systems.

4. Why is addressing that problem important for achieving the goal of your Action Track?

Action Track 4 is focused on advancing equitable livelihoods and this implies increasing access by the poorest and most marginalized to resources and services. The importance of seed accessibility (including, where relevant, affordability) for food security and nutrition, agricultural development and rural livelihoods, and agrobiodiversity and conservation is well accepted by policy makers, practitioners, and researchers. More importantly, the autonomy, agency and rights of farmers in the production and transfer of seeds is central to this accessibility. But definitions of seed security are unfortunately often based on food security assessments and, though related, they are not synonymous. Farming household may lack food to eat yet have enough seeds to sow on their land. Conversely a farming household may have food to eat but lack the right amount or quality seeds to plant to secure her or his family livelihood. This is often a function of a collapse or an absence of social networks that facilitate the trade or transfer of locally appropriate seeds. Further, repeated provision of seed assistance over multiple seasons leads to farmer dependency and thus increased vulnerability, making the need for vibrant farmer seed networks a question of resilience as well as of equity. Finally, and of central importance to AT4, the production of seed by farmer-owned SMEs promotes entrepreneurship and creates productive employment and decent work.

5. How can this solution address that problem (theory of change)?

Our theory of change is based on evidence that livelihoods are more equitable and secure where informal transfer, local market trade and small-scale commercial seed enterprise can thrive. If farmer networks are strengthened with support for information and knowledge transfer (at seed fairs or through digital technology or other media), then their individual and collective agency is strengthened. This strength can then lead to increased bargaining power, market engagement and connection with higher level governance structures. These higher level structures, in turn, can shape clear divisions of responsibility (government extension and advisory services, NARS, NGOs, farmers' groups and entrepreneurs, private companies, cooperatives, grain traders); provide up-to-date training and technical information; and, in some cases, stimulate key marketing opportunities (to the private sector and/or institutional buyers).

6. **Why does this solution align to the definition and criteria for a 'game changing solution' developed by the Summit?**

This solution can have significant impact at scale as it would result in the enhancement of the lives and livelihoods of millions of people and their seed resources. The capacity to contribute to the protection, restoration and management of critical genetic resources and the protection of farmers' rights to save and trade seeds is increased in such systems. It would lead to increased cultivation of nutrient-rich foods and the cultivation of often neglected foods to provide diversity in diets. It would also drive the localization of food systems as it underpins territorial, landscape and agro-ecological approaches to rural development and increase the resilience of food systems to climate change by ensuring diversity and heterogeneity.

7. **Existing evidence supporting the argument that this solution will work/achieve initial outcomes**

There is extensive evidence in the literature that plural and flexible seed systems, based on farmer networks and knowledge and built on transparent governance can improve the sustainability and equity of food systems (IFAD, FAO, Sperling, worldseed.org, Coomes and others). Improved understanding of the seed network-rural policy-food systems nexus could inform policy initiatives that leverage the advantages of farmer-based seed transfer (e.g. for diffusion of improved varieties) and strengthen seed systems to the benefit of farmers, for instance, by promoting diverse provisioning channels and new partnerships that improve farmers' access and choice, supporting local systems for managing quality (FAO, 2006), or 8.

8. **What is the current and/or likely political support for this idea?**

There is a growing recognition of the need for action and investment by governments, international agencies, the research community and civil society and indigenous peoples' organizations for greater and better support to developing the agency of farmers in seed system management. Many interventions, including research, have failed small-scale farming communities by assuming exogenous market dynamics and technology transfer would address seed quality and quantity challenges. Most actors now recognize that the agency and autonomy of farmers and farmer networks is key to sustainability, productivity, equity and resilience in food systems. Research and development on seeds and seed policy has made assumptions about adoption and scale and production that have neglected or even been at odds with farmer preference and agency, socio-cultural realities, and various rights frameworks.

9. **Are there certain contexts for which this solution is particularly well suited, or, not well-suited?**

The action proposed can be implemented globally but will be particularly required and most beneficial in places where food systems lack support structures and networking opportunities for small-scale farmers. Further, the solution can have higher and faster equity returns where women and marginalized communities face compound vulnerabilities due to, for example, harmful social and gender norms, poor governance or lack of regulatory authority, weak or non-existent extension systems, disrespect for human rights or contraventions of responsible investment frameworks.

Finally, it is worth repeating that the development of a commercial seed sector is not in competition with, or an alternative to, the strengthening of farm-level seed management capacities. Indeed, the emergence of a commercial seed sector will occur only where farmer seed systems are strong, where farmers know a great deal about what varieties are available, are engaged in widespread seed and information exchange, have good connections with formal plant breeders, and are confident and

knowledgeable consumers of various agricultural inputs. Any aspirations for commercial seed sector development need to begin with attention to farmers. Robert Tripp 2003