

Innovations in Humanitarian Food Science and Technology

Role of Food Science and Technology in Humanitarian Response

Executive summary of a report prepared by a multi stakeholder group formed following a symposium and workshop in Humanitarian Food Science and Technology in Sydney, Australia in July 2017

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Executive Summary

Many people around the world are affected by natural disasters, internal or cross-boundary conflicts, or large-scale economic turmoil. The humanitarian impact of such disasters is alarming and in 2017 more than 30 million people faced starvation and famine and more than 2 billion people were affected by micronutrient deficiencies. Providing these people with safe, nutritious, good quality food in the right quantity at the right time in the right place is an enormous challenge.

Although many international organisations such as the World Food Programme (WFP) of the United Nations and various non-government organisations (NGOs) are well equipped to source and distribute food aid to affected people (WFP provided food to around 80 million people in 80 countries in 2016), very often food is provided to cope with emergency situations and not for long term rehabilitation. Furthermore, the food may be sourced from different countries and may not conform to the local sensory and cultural preferences or food habits, especially when local food habits have not been properly accounted for in the program design. In such situations, food aid risks undermining local food systems in the mid to long term.

With increasing uncertainties such as climate change and global political and economic instability, the scale of this problem is likely to increase and urgent action is required to ensure that when facing an uncertain future with adversities, those affected have access to safe, nutritious food not only as emergency aid, but are able to secure their food in the long term.

Food science and technology (FST) plays a crucial role in the production of safe, nutritious, stable and convenient to consume foods with an extended shelf life so that affected people are able to satisfy not only their nutritional requirements but also their sensory and cultural requirements. In addition, FST could make a significant contribution to food processing, including the production of relief food locally, thus providing employment, contributing to the local economy and enhancing resilience in crisis-prone areas, with potential benefits extending longer term beyond emergency situations. However, the role of FST in humanitarian and emergency food related interventions is still not well understood and is seldom considered in humanitarian circles.

At two training courses on humanitarian food science and technology (HFST) conducted by the universities of Lille in France and Ghent in Belgium in 2014 and 2015, the gap in knowledge of using FST in humanitarian and emergency feeding systems was recognised. In the evaluation of the training course in 2015, a recommendation was made to organise an international conference in HFST. As a result, a symposium on HFST was organised in Sydney in July 2017 through the Australian Institute of Food Science and Technology (AIFST).

The main objective of this symposium was to increase awareness of HFST globally, to identify technological challenges where FST could contribute to humanitarian and emergency strategies and projects, and to set the basis for a multidisciplinary and multi-stakeholder global network that could address some of the challenges of humanitarian and emergency food. The symposium brought together a number of influential, experienced personnel representing diverse global stakeholders, including UN agencies, NGOs, academia, research institutes, the private sector and governments. The presentations from this symposium could be accessed from the [AIFST website](#).

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The day after the symposium, Australia's national research agency, CSIRO, hosted a meeting with 18 of the symposium speakers and participants representing key stakeholders. As a result of this meeting, an engaged, multi-sectoral, multidisciplinary working group was formed to continue the HFST activities that were discussed during the symposium.

The presentations and the panel discussions at the symposium and the discussions at the post symposium meeting demonstrated that UN agencies, other relief organisations and a number of NGOs have the capabilities to source and distribute food to those in need in current humanitarian and emergency situations. However, it was recognised that the role of FST and the contribution that it could make in addressing some of the problems within the global humanitarian and emergency food responses are not well understood by the relief workers, NGOs, donors, beneficiaries, governments, academia or the research and development (R&D) community. It is also apparent that the vast expertise of the private sector in the food supply chains and in providing innovative food products, processes and services and the existing FST networks are not properly used in humanitarian and emergency responses.

Understandably, the emphasis of most current aid policies appears to be on immediate and short-term assistance where the focus is on saving lives. The implementation of these policies in protracted emergency environments tends to induce dependency on aid, especially when emphasis is placed on developing coping mechanisms that tend to reproduce external food systems that are rarely adapted to the local situations, rather than on strengthening resilient food systems locally. Hence it is recommended that aid policies and implementation mechanisms foster sustainable self-reliance.

Therefore, solutions should help those affected not only by the provision of relief food products that they need, but also by providing incentives to local production and supply chain, thus strengthening the local food systems. It has been shown that commercial and inclusive agri-food value chains could directly benefit the poorest people by enhancing their livelihoods and increasing their resilience. FST could serve as an accelerator for these local value chains development, not only with the aim to increase food security, but also to improve the productivity of primary production and utilize the full potential of the agricultural sector.

Sharing such an experience in a humanitarian context would require a shift in aid interventions from relief only to recovery and rehabilitation activities aiming at seeding incentives that would have a leveraging effect on sustainable development schemes.

The proper implementation of innovative and sustainable solutions within humanitarian and emergency responses through multi stakeholder partnerships involving relevant UN agencies and NGOs, together with the research community and the private sector, is likely to result in tangible outcomes to beneficiaries as well as significant positive health, economic, social and environmental impacts to the local communities.

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It is recommended:

- 1) To increase awareness of the critical role and importance of FST in humanitarian and emergency response among humanitarian stakeholders and of the challenges and opportunities in humanitarian and emergency response among food scientists and technologists.
- 2) That policy makers, donors, governments, NGOs and other humanitarian actors recognise that there needs to be a shift in investment policy from the current focus of restoring agricultural production to addressing the whole food system. Such an approach will enable local food security issues during and after humanitarian and emergency situations to be addressed as well as reducing food waste, creating local employment and increasing local resilience through the application of FST.
- 3) That adequate resources are allocated, and investments made in training, education and local capability building with respect to applying FST in addressing humanitarian and emergency challenges to identify, adapt and/or support locally appropriate solutions. It is envisaged that the group formed in Sydney following the HFST symposium and workshop in July 2017, could play an important role in facilitating such initiatives.

This report was prepared by the Humanitarian Food Science and Technology working group:

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