

## **Cooperative Research Programme: Sustainable Agriculture and Food Systems Fellowship Summary Report**

**Ingrid Kelling**

**Research Proposal:** Theme 1 Managing Natural Capital for the Future

**Subject Title:** New approaches to improving food security in a post-COVID world

**Host Institute:** School of Aquatic and Fishery Sciences (SAFS) at the University of Washington

**Host Collaborator:** Professor Chris Anderson

**Dates of Fellowship:** May-July 2021

### **Summary paragraph:**

The research proposed using the four pillars of food security as a framework to examine the impacts of COVID-19 on the current food supply system, using the fisheries and aquaculture sectors as a pilot. We discovered that the availability of seafood trade data to investigate the true impact of COVID-19 on seafood trade is still sparse in many cases. This makes it difficult to draw firm conclusions and hypothesise what seafood trade will look like globally post-COVID. As a result, this paper tried to fill some of these knowledge gaps using one of the most data rich seafood sectors globally – salmon. We investigated the impact of COVID-19 on the salmon sector across each of the four pillars of food security, examining changes in volumes and value of production and trade in Atlantic Salmon from Chile and Norway. We discovered that due to the particularities of salmon supply chains, salmon chains have proven resilient in light of COVID, and access and availability of salmon have not been threatened, showing that strategies to reduce impacts on supply chains must not assume all are equal. More, case specific research is required, but will likely be limited by the speed at which robust and harmonised data becomes available.

I consent to this report being posted on the Co-operative Research Programme's website.

## **1. Research Objectives**

The research objective was to use the four pillars of food security as a framework to examine the impacts of COVID-19 on the current food supply system, using the fisheries and aquaculture sectors as a pilot.

In addition to being a major global health threat, the ongoing COVID-19 pandemic has threatened food systems worldwide, including the seafood sector. All four pillars of food security: availability, access, utilisation and stability, have been shaken by COVID-19, exposing the cracks in our current food supply system. Given the multitude of long-term threats to food security, COVID-19 presents an opportunity to examine an alternative model that can accommodate future shocks and build more resilient systems.

## **2. Achievement of the Objectives of the Fellowship**

We discovered that the availability of seafood trade data to investigate the true impact of COVID-19 on seafood trade is still sparse in many cases. This makes it difficult to draw firm conclusions and hypothesise what seafood trade will look like globally post-COVID. As a result, this paper tried to fill some of these knowledge gaps using one of the most data rich seafood sectors globally – salmon. We investigated the impact of COVID-19 on the salmon sector across each of the four pillars of food security, examining changes in volumes and value of production and trade in Atlantic Salmon from Chile and Norway. More, case specific research is required, but will likely be limited by the speed at which robust and harmonised data becomes available.

## **3. Major achievements of the Fellowship**

i) We discovered that due to the particularities of salmon supply chains at the production level and the ability of salmon producers to switch quickly to new markets and products, overall, salmon chains have proven resilient in light of COVID, and access and availability of salmon have not been threatened. This is in contrast to a review of the current literature that suggested that COVID-19 had a negative impact on the different food security pillars, showing that strategies to reduce impacts on supply chains must not assume all are equal.

ii) An abstract for a Development Review has been submitted to the journal *World Development*. The need for more specific case research and as more data becomes available, will lead to further collaboration and research outputs with the host institution and co-authors.

iii) Although there is some work underway (including at the OECD) to examine the impact of COVID on producer supply chains, to our knowledge no research specifically tackles both the implications of system shocks and an evaluation of factors determining food security. As a result, the research crosses a number of different disciplines within the social sciences, including food security, nutrition, trade, and post-growth economics.

## **4. Follow up work**

More, case specific research is required, but will likely be limited by the speed at which robust and harmonised data becomes available. As more data becomes available, it will lead to further collaboration and research outputs with the host institution and co-authors.

If the abstract is approved, a full Development Review will be submitted to the journal *World Development*.

**5. Benefits of the research project results** for helping develop regional, national or international agro-food, fisheries or forestry policies and, or practices, or be beneficial for society?

Widespread shocks to any network system not only test functionality but also provide opportunities to evaluate weakness and thereby build more resilient systems with higher resistance to future failure. It is not sufficient to try and only recover a pre-COVID normal, given the multitude of long-term threats to food security. A newer, more resilient normal must be reached in which future shocks are met with greater local resilience. This research provides clear policy recommendations to ensure resilient and truly sustainable food security and associated livelihoods and has important knowledge gains related to the interlink between food security and economic policy in both the developed and developing world. In particular, strategies to reduce impacts on supply chains must not assume all are equal, and further research is required as data becomes available to fully understand COVID-19's impact on food security. Further development will lead to implications for the following policy areas: development of rural economics, trade systems vulnerable to external shocks and the general theme of food security.

## **6. Research relevance**

- **CRP Objectives**

The long-term resilience of the global food system requires new approaches that challenge our current way of thinking. Policy interventions with a direct or indirect impact on food security, including trade, will require sound scientific evidence that emerging approaches can contribute to guaranteed food supply in times of future crisis. This paper provides evidence that supply chains do not always react in the way we may have anticipated in advance of a crisis. Further research will determine the full scope of lessons to be learned.

- **CRP Research theme**

The research has important social and economic impacts as it focuses on evaluating the impact of the pandemic on producer supply chains and tackles both the implications of system shocks and factors determining resilience. The knowledge generated from our work is essential if countries are to not return to business as usual and instead promote systemic, positive change and increased resilience in food security. More broadly, the results will inform nationwide policy makers and implementors, highlighting areas for future investment efforts and systems research on food security. Furthermore, the research will serve as a case that can be repeated for a number of commodities and many of the results will be broadly applicable to wider farming and agriculture industries, which contribute significantly to food security and have also suffered significant disruptions from the COVID pandemic.

## **7. Satisfaction**

My Fellowship conformed to my expectations regarding the output and collaboration (including for the future), with the supervisors steering the development of the paper. Unfortunately, due to COVID-19 lockdowns and travel restrictions, I was unable to visit UoW. This was disappointing, but also unforeseen and unresolvable. Nevertheless, the digitalisation of research, the nature of the research and the ability to connect with the supervisors via video led to sufficient oversight and successful achievement of objectives.

The Fellowship will directly drive forward my career as the award of such a Fellowship was a Key Performance Indicator (KPI) for promotion to Associate rather than Assistant Professor, as well as a leading to expansion of my academic network, my intellectual learning, and learning from peers.

Practical problems related to travel only (as I was unable to undertake the Fellowship at UoW as intended due to the pandemic), but not to undertaking the research.

If COVID continues then one idea could be to reduce the payments per week but increase the length of time the awards are made for. This is because research projects often involve a period of planning and write up that may not be covered by the Fellowship otherwise.

## **8. Advertising the CRP**

I learned about the Co-operative Research Programme through former colleagues and the website. Opportunities for expanding marketing of the programme could be:

- Using the OECD handle on LinkedIn.
- Attaching the link to email signatures by a wide number of colleagues.

Overall, the Fellowship was a welcome and successful experience leading to new collaboration and an academic output, strengthened collaboration with my co-authors, as well as the desire to continue research cooperation in this area.