

Kelly Bronson

Abstract. This paper focuses on a potential digital divide which appears to be emerging via innovation-led social shifts in the food system: the so-called digital “revolution” in agriculture. The concept of a digital divide is used in scholarship and policy to refer to the uneven ways in which people are enabled in their engagements with digital technologies. In the context of digital agriculture, scholars have discussed how some farmers are hamstrung by the expense of sensing and other equipment, the patchy provision of telecommunications infrastructure (e.g. broadband), as well as low levels of digital skill. Drawing on qualitative interviews with 40 farmers from across Canada, this paper moves attention “upstream” in the innovation ecosystem, to the impact of design and engineering decisions on farmer decision-making. Notably, agricultural big data collected into commercial decision systems are currently biased against, or are irrelevant for, farmers working outside of what scholars call a “productivist” strategy— one that maximizes the output of commodity export crops. Non-industrial farming strategies have historically been underserved by both public and private sector research, despite the importance of these social actors for rural community and global climate resilience. The paper suggests an alternative framing for agricultural policy from market-driven to responsible research and innovation.

Leanne Townsend

Abstract. Leanne is a Senior Social Scientist within James Hutton Institute, Aberdeen. Her interests lie in the social and economic impacts of digitalisation in rural and international development settings. She has carried out research with diverse groups, including: rural communities; farmers and agricultural stakeholders; Gypsy-Traveller communities; traditional craftspeople; and subsistence farming communities in Sub-Saharan Africa. She is currently researching the implications of digitalisation for agricultural and rural communities in the UK and Europe, with a focus on small farms and agricultural communities in remote settings. Leanne will talk about her research on the impacts of digitalisation in these settings. She will reflect on the opportunities digitalisation offers for rural resilience and growth, as well as the challenges presented when access to digital infrastructures is not adequate. Leanne will introduce the case of Scottish crofting communities (a croft is a small farm typically producing livestock and based in remote upland or island regions). Crofting communities are characterised by the challenges typical of remote rural regions such as demographic ageing and youth outmigration as well as poor digital skills, and inadequate broadband access. These challenges suggest that digitalisation has the potential to either benefit these communities or further

compound the problems that they face. This presentation will look beyond the urban-rural digital divide to consider divides *within* rural regions, and the importance of responsible digital innovation for these areas.

Chris Addison

Abstract. Chris Addison is a senior programme coordinator with the Technical Centre for Agricultural and Rural Cooperation. His interests are in the possibilities of a data driven approach to digitalisation in African farmers organisations as a means to improve smallholder farmer livelihoods, productivity and resilience. Over the last three years he has worked together with the Pan African Farmers Organisation on eight field projects investigating the role of data focussed digitalisation in improving production, access to markets and credits and in improving links in the value chain.

The presentation will review what types of impact can arise from this approach to digitalisation, the challenges facing such interventions and the possibilities to support the farmers to secure new services and control access to their data.

The project with Wageningen University has reviewed a range of research in this area and brought those together with lessons learnt on the field projects in a Massive Open Online Course with FAO, the first running with 2700 participants mainly from across Africa. Work is concluding on the use of codes of conduct for data exchange by the farmers organisations which is at the heart of these new digital services. The final element of the project links with work with governments such as Ghana where CTA is supporting the policy process to support agricultural data exchange and availability. More agricultural data is being opened up for potential use by these digital services through a series of initiatives which have been reinforced by the Ministerial agreements across Africa, most recently that in West Africa supported by CTA at the recent Africa Geospatial Data and Internet Conference.