

Article

Capturing Social Innovations in Agricultural Transformation from the Field: Outcomes of a Write-Shop

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Abstract: The aim of this project was to explore the theme of social innovation for nutrition-sensitive and sustainable agriculture, resulting in examples of improved production and consumption of nutritious food. Social innovation refers to the generation and implementation of new ideas about how people organize interpersonal activities, or social interactions, to meet one or more common goals and in the process change basic routines, resources, and decision-making processes. In the country context of Myanmar, this research aimed to capture a variety of social innovation cases related to processes of agricultural transformation. Through the method of a collaborative case study write-shop, Myanmar-specific social innovations were identified, illustrating various forms of social innovation across the cases with citizen engagement processes. The write-shop method, in combination with the embedded expertise of development practitioners, proved to be a promising approach to identify niche innovations, distil insights, reframe actions, and promote critical thinking among different actors.

Keywords: social innovation; agricultural commercialization; nutrition sensitive transformation; Myanmar

1. Introduction

Food systems are undergoing rapid changes in response to economic and market developments, environmental impacts, and dietary changes [1]. Key drivers for these changes often relate to population growth, climate change, urbanisation rates, and globalising economies. Together they create complex changes in systems, institutions, and communities. In low- and middle-income countries, these changes have a profound effect on poverty, livelihoods, and food and nutrition security of poor households and smallholder farmers. In many of these countries both urban and rural households interact with various food system typologies: notably the “modern” agro-industrial system, which is dominated by a few global players with vertical value chains; the “traditional” food system, which is characterised by small-scale production with short supply chains; and the “intermediate” food systems which combine elements of the other two types. It is now seen that in Asia, for example, most consumers interact with intermediate food systems [2].

It is expected that in the coming decades food systems will change even more, influenced by sustainability concerns, changing consumption demands, and social challenges. In parallel, it is becoming clearer that achieving global development goals and tackling wicked problems requires attention to a number of interrelated themes [3]:

- The search for adequate forms of governance fitting with contemporary dynamics such as globalisation and democratisation;

- Growing understanding about the need to deal with complex adaptive systems, incorporating elements of non-linearity, resilience, and constant change;
- Taking into account how the human mind works in response to information streams and in decision-making processes, building on social learning processes [4];
- Exploring innovation as a key way to solve problems, generate new value and transform systems;
- Working in partnerships, building on the fact that these issues cannot be confronted by one or two actors without the collaboration of other organisations or institutions from other parts of societies or sectors.

In many scenarios and partnerships for the development of food systems, commercialisation strategies for smallholder farming are seen as one of the key responses to promote and provide for high-value agricultural products, generate incomes for farming households, and to improve linkages between rural, urban, and global markets [5]. While it is important to explore how smallholders can better participate in existing food system arrangements, it can be argued that deeper or transitional approaches are needed to tackle the themes mentioned above. It is perhaps not enough to only include, but to also empower citizens to change institutions and mental models for better, and sometimes unexpected, outcomes. Thus, in other scenarios, innovation of social, economic, and environmental relationships within food systems is deemed crucial to tackle these challenges and provide sustainable and inclusive transformation. The emerging field of social innovation, drawing from innovation, resilience, social entrepreneurship, and organisational change thinking, seeks to understand how individuals, organisations, and networks can generate new solutions for multiple societal goals [6] or build resilience through transitions [7]. Social innovation departs from the starting point that societal and systemic innovation requires techware (technical elements), software (social/people aspect), and orgware (the institutional organisation and setup). Lasting innovation also or at least partially includes social innovation, combined with technical and institutional innovation. Many innovations did not make it and failed as they underestimated the social component.

Since the 2011 reforms, widespread changes are taking place in Myanmar. In addition to political liberalization, the country has gone through a process of post-socialist economic transition. In economic-institutional terms, Myanmar has been undergoing transformation from a centrally-planned, state-commanded socialist economy, to an open, market-based capitalist economy. The rapid transformation and fragile shift from the political dominance of the military has brought consequences of an unprecedented magnitude. The international community, international organizations, and foreign investors have reengaged in projects with Myanmar, and a new social dynamism is being established, including deeper engagement with globalization. The political reforms implemented over the last years have triggered changes in all parts of the country. It is not clear, however, whether these changes will continue, and how these changes will impact on diverse social groups and across the national space [8].

The research presented here was conducted throughout 2017 as part of Wageningen University and Research programs on Global Food and Nutrition Security and Social Innovation for Value Creation. The goal was to explore the theme of social innovation for the identification of nutrition-sensitive and sustainable agricultural development pathways. Applied to the context of Myanmar, this paper presents the projects' explorative approach and methodology to identify social innovation cases in agricultural development and food and nutrition security programs and initiatives. These cases represent innovative niches that test and refine new arrangements or techniques within the agricultural sector. Innovation scholars in socio-technical transitions have discussed the importance of creating innovative niches, which are understood as safe spaces within an organisation or network. They can also serve as the root of a new organisation [7].

By using the lens of social innovation (SI) and by using write-shop methodology the goal was two-fold: (1) bring together four emergent Myanmar cases related to social innovation, agriculture, and food and nutrition security with a focus on the consumption of nutritious food (Cases 1.0) and turn these into concrete, shareable products (Cases 2.0); and (2) learn from each other's approaches

and experiences and utilise the complementary capacities to generate useful principles and insights in relation to SI. In this way, the Myanmar cases contributed to the following research questions, which were identified at the start of the research program:

- What are critical drivers of food choices for farmer households?
- How can farm households manage risks related to climate and market changes?
- What farm household strategies support nutrition sensitive agricultural pathways in commercializing agricultural contexts?

Theoretical Orientation

What Is Social Innovation?

Different types of definitions of SI have generated two main schools of thinking in SI [9]. The first school focuses on new social processes. This relates to exploring changes in social relations, and emphasising changing power balances towards economic equity in society. A definition by Westley and Antadze [10] suggests that “social innovation is a complex process of introducing new products, processes or programs that profoundly change the basic routines, resources and authority flows, or beliefs of the social system in which the innovation occurs. Such successful social innovations have durability and broad impact”. Accordingly, authors like Mumford state that social innovation entails complex processes introducing new products, processes or programs that profoundly change the basic routines, resources, and decision-making processes, or beliefs of the system in which the innovation occurs [11]. The second school emphasises understanding of new social outputs and outcomes, and is primarily oriented toward dealing with market failures in the provision of public social goods. In line with this second school the Organisation for Economic Co-operation and Development (OECD) [12] states that: “Social innovation is distinct from economic innovation because it is not about introducing new types of production or exploiting new markets in itself but is about satisfying new needs not provided by the market (even if markets intervene later) or creating new, more satisfactory ways of insertion in terms of giving people a place and a role in production”. It has to be noted that not all social innovation is positive as dominant actors may influence the innovation process.

How to Make SI More Concrete?

The difficulty with approaching social innovation is that it is not clearly defined as a concept, and is often both invoked from a strongly actor-oriented, agency perspective on the one hand, but also from a structuralist systems perspective on the other. This is because innovations can be seen to come from individuals, but also from combinations and causal chains of results from external contexts [13]. Scholars attempting to distinguish between agency and structural innovation thinking have identified various levels: innovation of goods and services, institutional innovation geared to reorganising social and economic structures, and system change or radical innovation [14].

It is important to note that these dimensions do not have to suggest yet whether or not these innovations are successful. It rather focuses on the vision of change aimed for. As noted above, SI is not necessarily a good thing, even though the two main definitions seem to suggest this. It can be the case that SI leads to consequences that are beneficial for some while leading to disadvantages and negative effects for others. This can take the form of secret societies and shadow states; unintended consequences that eventually do more harm than good; and that it can fail in its implementation or used for different goals than was intended by other actors in society. It is important to realise this because in SI discussions it is sometimes assumed that win-win and beneficial outcomes are the key elements of SI [9]. Amongst the drivers for SI the need to address so-called wicked problems affecting global societies is central: climate change, growing inequality, demographic transitions, migration, and terrorism among the most important ones. In parallel, the changing of the way society is organised socio-politically may compound these problems: growing nationalism, public sector austerity, financial market complexity, private sector market failures, etc. This has affected all of the traditional spheres of society (public, private, and civil society) [9].

In dealing with the question of who is to deliver public welfare, SI has increasingly taken shape in the form of new partnership models in which public, private, and civil society actors collaborate or become hybrid actors. This is seen to have the potential to increase effectiveness of services and improve performance of control and choice, leads to new stakeholder role divisions and responsibilities, and new ways of co-creation and citizen engagement. New hybrid actors, as sites of social innovation, start to exist at the interface of private/public and civil society sectors. These can take up the ideal-type form of public–private entities, shadow state, and social enterprise, while there is a spectrum of different types of organisations existing between the different sector types [14].

The shifting or rather the blurring of boundaries between actors and organisations from different parts of society is often happening in response to challenges, risks, opportunities, and new mental models that encourage organisations to step out of their traditional role. Businesses seek to find new ways for creating “shared value” and for corporate social responsibility. Civil society actors seek to become more efficient, and realise more sustainable and durable outcomes of their projects by involving more business-like engagement models. Public institutions respond to new public governance trends, incorporating the modernisation and digitalisation of the public sector [9].

Why is SI Relevant for Agricultural Development Pathways for Food and Nutrition Security?

In the field of agriculture and food and nutrition security different forms and cases of SI can be highlighted:

- Processes of resilience and adaptation in production of food;
- Inclusive participation and new roles for stakeholders;
- Community-led organisations and bottom-up initiatives;
- Different interpretations and usages of technologies;
- New kinds of agro-food partnerships;
- Citizen science initiatives.

Various social innovations in this sphere have been captured in the past in Asia. In India, the System of Rice Intensification (SRI) as described by Prasad [15] is one such example. In this case, a combination of factors such as the historical influence of Gandhi’s independence teachings to search for alternative narratives, availability of community spaces for exchanging indigenous knowledge, a deep crisis in farmer agency (high productivity rates but low profits leading to a high percentage of farmer suicides), and a heavy emphasis on green revolution technologies led to a counter-response that did not involve genetic modification. The idea was that SRI involves managing rice plants, soil, water, and nutrients with reduced use of material inputs while creating productive and resilient varieties in a collaborative manner. These approaches were tested in collaborations between researchers, civil society organisations, and farmers. While initially meeting with heavy resistance from agricultural research and extension institutes, eventually SRI became an accepted body of knowledge on crop intensification and helped to foster diversity in thinking and renewed valuation of local experimentation and community engagement [15].

A second example piloted in South East Asia refers to “Farmer Field Schools”. Piloted by the United Nations Food and Agriculture Organisation since the early 90s. Farmer Field Schools were developed as an approach countering top-down Green Revolution extension methods in places where complex or contradictory problems challenged farmers. The premise of putting farmer peer-to-peer learning and group experimentation ahead of technical knowledge constituted a new approach to farmer capacity development. This approach allowed farmers to investigate, test, and decide for themselves what production methods worked for their environment [16].

In another example, food system researchers have signalled movements that are increasingly calling for “reversed food chain thinking”: reshaping relations to follow consumer demand rather than production push or market pull. In these perspectives, the end-consumer is the final judge of food systems. Such an innovation would reorient food chains to food acceptability, safety, health, and use

of (nutritious) food. For researchers and value chain actors, such dynamics require a more holistic approach to supply chain problems.

In this research, the theme of “social innovation” for nutrition-sensitive and sustainable agriculture for improved production and consumption of nutritious food in Myanmar is of particular interest. The recent process of opening up to the global economic system, ongoing processes of democratisation in Myanmar, combined with a growing commercialisation in agriculture, represents an interesting setting to explore emergent forms of social innovation [17].

2. Materials and Methods

An SI write-shop was organized in Myanmar. Write-shop methodology [18,19] was applied on four cases that explore and illustrate social innovations in Myanmar. Write-shop methodology focuses on documentation of key findings and lessons learned from practitioners and experts. The challenges posed by the limited uptake of exemplary practices, and the reality that useful knowledge often remained in the mind of field workers or in unpublished documents, prompted the discovery and testing of write-shop approaches [19]. The objective of write-shops is to help make available “hidden” field knowledge and make voices from the field become part of global dialogues on development. With the help of facilitators and editors field knowledge was put on paper (or on another communication medium for that matter). The write-shop method is particularly useful for really sitting down with colleagues and peers, take stock of practice, draw lessons, and work practically on a product that can be used after the workshop. A key driver for organisations to engage in write-shops is the need to document insights and produce shareable and easily consumable materials on certain issues deemed important. Often field practitioners face a situation where information is scattered or not easily understandable even though it could be very relevant to them. Another situation might be that a group of field practitioners has discovered solutions to pressing problems, but do not have the time or skills to capture them fully. In these situations, the departure points are often that information is largely in people’s heads; no single person is the expert or has the overview; information is drawn from a broad repository of data; and the information needs to be validated with others [19]. Capturing emergent niche experiments that have the potential to result into sustainable innovation has a focus on reflection and articulating emergent understanding as a learning process. Likewise, the SI niche experiments described in this article all seek to develop sustainable solutions in practice, while integrating social and economic issues [20].

Write-shops generally take the following steps [19]:

- First draft presentation;
- Participants criticise the draft, offer comments, and suggest illustrations;
- Draft re-written and edited;
- Drafts are again reviewed and adapted;
- Final products are developed.

The process of repeated presentations, critiquing, and revising of drafts allows for papers or other products to be reviewed and sharpened substantially, development of new topics, and for topics to be combined, dropped or split into parts. The Myanmar write-shop took place over a two-day workshop in October 2017 (see Figure 1). Key findings and lessons on SI, presented by practitioners, were documented in a workshop report [21].

Four Yangon-based organisations engaged in agricultural innovation were selected to participate based on purposive sampling. The write-shop process started with a participant instruction, prior to the event, to prepare a case for the workshop (bringing pictures, documents, video images, etc.) and to reflect on the kind of desired end-product. In the two-day setup, participants first orally presented their cases on social innovation, followed by a session of questioning, deepening, and critical review.

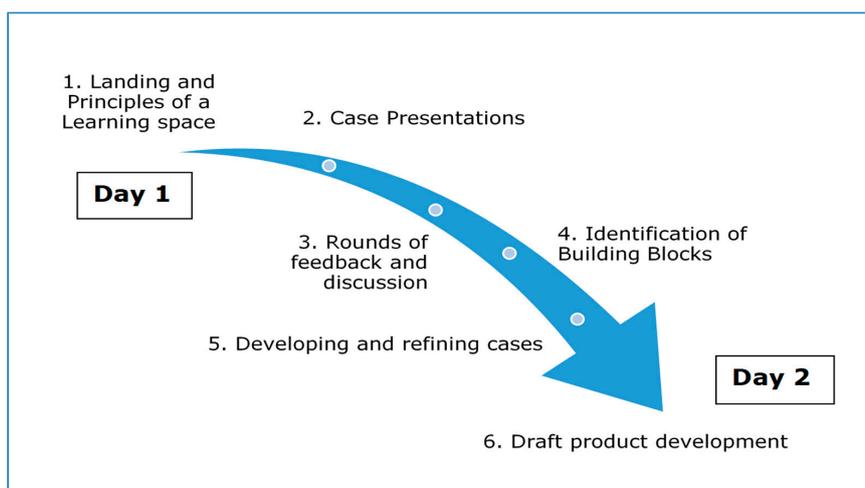


Figure 1. Process followed during the two-day social innovation workshop.

Based on this, a first draft was composed for all four cases, followed by a second round of review and feedback. Draft products were revised, and new topics were developed or combined, or topics dropped. Inputs from all participants were incorporated, taking advantage of the diverse experience and expertise of people present. The cases together formed the basis of the building blocks (or themes) capturing the current processes of SI in Myanmar.

The example of Farmer Field Schools was shared as a social innovation example that started in the 90s and is now institutionalised in various SE Asia countries [16]. This methodology emerged in response to the Green Revolution and the idea that farmers should also have the chance to share and give their opinions and best practices. By letting farmers test and choose key practices and letting them compare between different farming approaches a new way of supporting technology and knowledge uptake was facilitated. After the introduction, participants together translated the concept of SI into Myanmar language and back to English, which provided a more detailed and contextualised understanding of the SI concept.

During an initial scoping visit to Myanmar in January 2017, the team members of Wageningen University & Research had the opportunity to meet with a number of organisations working from diverse angles and expertise on agricultural transformation and food and nutrition security. Some of these organisations showed potential in terms of projects and initiatives that touched upon the abovementioned key concepts of social innovation. Four organisations active in Myanmar brought forward a social innovation case: Fresh Studio, Greenway, Myanmar Heart Development Organisation (MHDO), and Wageningen Centre for Development Innovation (WCIDI). The four Myanmar SI cases are presented below:

1. **Fresh Studio** implements the Sustainable and Affordable Poultry for All (SAPA) program in Myanmar. The SAPA program aims at improving the food security and rural incomes of smallholder poultry and maize farmers in Myanmar through a public–private partnership with Dutch, Belgium, and Myanmar parties. One of the key problems SAPA is addressing is the low agriculture productivity in Myanmar in general, and in maize and poultry production specifically. Low agriculture productivity results in low rural incomes and relatively expensive food. With 25 to 50% of rural inhabitants being landless, and often without sufficient income to obtain food, it is crucial that a thriving agri-business sector is developed to generate jobs and lower the cost price of food. The project goals are to improve food security and rural incomes of smallholders in Myanmar, through the introduction of more productive and sustainable poultry and maize farming practices. This will result in lower cost prices and productivity gains, making poultry more affordable, and as the major source of animal protein in Myanmar, contribute to food security.

2. **Greenovator** is a social enterprise launched on 1 May 2011 in Yangon, Myanmar. It was founded by three core members who graduated from the Yezin Agricultural University. The vision of Greenovator is to share online agricultural techniques and information with farmers and to help them improve their agricultural practices and income levels. A key part of the work is the Green Way mobile application. This app serves the information needs of the farming communities by giving access to practical information. Key features include farming practice information; weather forecasts; daily news; Q&A; and daily crop market prices. The Greenovator team actively tries to improve their engagement with farmers and their daily realities, including sharing of practical expertise from farmers themselves.
3. The **Myanmar Heart Development Organisation (MHDO)** is a Myanmar civil society organisation founded in 2006 to create and provide opportunities for improved livelihoods for the needy in Myanmar. The organisational activities include food for education, food for work, food for training and non-food items, and cash for work. The organisation also implements agriculture-related interventions such as integrated farming, livestock rearing, and organic farming techniques. Key areas where the organisation works include Northern Shan State, Magway Region, and Rakhine State. Notably the work conducted in Northern Rakhine State, which was highly unstable and conflict-stricken at the time of the workshop, meant that the organisation had to be very sensitive and adaptive in their balancing of humanitarian and development work. The MHDO case focused on how to best combine activities that contribute to food and nutrition security. One of the methods used was the “Five Colours” approach to teach villagers about nutritional values of fruits and vegetables: each colour represents a different type of nutritious food. Another part of the work is on agricultural development through support in making organic fertilizer.
4. **Wageningen Centre for Development Innovation** researchers generated insights into SI examples in Myanmar during a case study [17,21]. For this write-shop, one village was selected to highlight a number of activities and strategies that could signal the development of socially innovative strategies. In one community in the Pakokku research area (Magway State), interesting activities and dynamics were taking place. In this community forms of strong social cohesion were identified, under the guidance of community leaders, which translated into various economic and social opportunities and goals. Firstly, the community farmers were organising themselves gradually to bypass the role of wholesalers and brokers by collecting their produce together and hiring a truck to bring it to the market themselves. Secondly, it was also seen that, through the support of a non-governmental organisation (NGO), community members had combined a traditional oilseed mortar and pestle with a modern fuel-driven engine to make groundnut oil themselves. This enabled the community to make good-quality oil (free of contaminants they perceived other oil products from the market to have) and at the same time provide a service accessible to the whole community. The third example identified other activities such as collective labour to rebuild dams and water containers, and a strong willingness to participate in, and share the knowledge from trainings given by NGOs, universities, and businesses.

In the write-shop each organisation developed their own needed product and in the process contributed to general learning and insights on SI. In this way, the four participating organisations worked on their case and produced their respective product, while also contributing with insights on SI processes in Myanmar.

3. Insights and Results of the Write-Shop

3.1. Findings and Results Per Case

Fresh Studio—During the write-shop Fresh Studio developed a case study document that highlighted elements of social innovation in their work and practices. This was based on their own poster presentation (Case 1.0) and the SAPA program document, but also their experiences from the

past year and a half implementing the program. Based on the iterative feedback process provided in the write-shop, the elements of SI that came forward from the case were the approach of short-cutting the value chains of maize and poultry by more strongly connecting consumers of safe chicken to farmers producing broiler chicken and farmers providing maize for these chickens. Providing a “Myanmar consumer” and a “quality” perspective to food is quite new for Myanmar. It was also noted in the write-shop that whereas there is a technical component to understanding and working with this, there is also a cultural element that is important to pay attention to. Fresh Studio can build on the idea to strengthen the partnership further as it works on this social component. Another key element that was interesting to develop from an SI point of view was the fact that many different types of stakeholders are working together in this Public Private Partnership (PPP). This is a new form of collaboration in Myanmar and has the potential to create opportunities and synergies not considered before. The write-shop resulted in a draft text for a brochure highlighting the SI elements of the SAPA program.

Greenovator—Greenovator wanted to make use of the write-shop to develop a storyboard for a documentary they were planning to make to promote the use of the app. Myanmar farmers often do not have access to agricultural extension and information services—a key systemic problem in the Myanmar food system. The basis of the storyboard idea was to introduce a few farmers who stated that they had really benefited from using the Greenway application. The challenge for the Greenovator group was to identify the elements that make the mobile application a social innovation and to visualize this in a documentary. Going over the exercise of developing a storyboard for a short video or documentary was valuable for the Greenovator team. They experienced that developing a documentary storyboard was not easy, and that the difference between a documentary and a promotional video is not only about the length of the video. The team was challenged to exactly pinpoint what makes the Greenway application different from other agricultural extension training interventions. These elements, showing the SI potential, had to do with the communication flows between farmers, experts and value chain actors, and the potential for exchanging different forms of knowledge. The write-shop resulted in a storyboard providing a detailed visualized outline of a documentary. If Greenovator is able to make the bridge between expert knowledge and farmer/community practice and traditions, changing the roles of these groups in the process, it can create interesting added value in the Myanmar food system.

Myanmar Heart Development Organisation—During the write-shop MHDO wanted to work on a picture book that illustrated their approach to creating more awareness about food security and nutrition in communities in Northern Rakhine State. Using the inspiration from the Five Colours approach to highlight the nutritious value of products like vegetables and fruits, they drew characters and developed a storyline that tried to tap into the knowledge they already had from the region, the adaptive capacities of communities, and insights on nutrition. In the picture book, the MHDO developed the story of how a development worker arrived in a community in Northern Rakhine and met a community leader. They started talking about good food, healthy food, and nutritious food. The development worker had ideas about what that meant, and the community leader as well. They decided to work on food and nutrition security together, inspired by the Five Colours approach, but also building on the communities’ resilience and local agro-ecological circumstances.

Wageningen Centre for Development Innovation—During the write-shop WCDI intended to develop a technical brief highlighting different forms of social innovation identified at the village level. The working title of the case (Case 1.0) was “Kan Zauk, the Prize-Winning Village”. The “Prize-Winning Village” concept showed that combining life-course research methodologies with ideas of change in the community could lead to interesting perspectives on social innovation. In the process of developing a Case 2.0, it became clear that though there was quite some interesting information already there, more data needed to be collected to make it into a solid case study. The key message that this story brought was about inspiration and awareness of basic elements and processes of social innovations happening in Myanmar villages. These do not necessarily occur in only this village, but probably in

many communities across Myanmar. The activities mentioned, such as the community oil pressing mill, the collective truck or the new partnerships with research and businesses may not seem very inventive from a general development perspective, but in Myanmar these are new opportunities and ideas arising through bottom-up initiatives. For policy-makers this is essential to know about and support.

3.2. Overall Synthesis of Social Innovations Contributing to Nutrition Sensitive Agricultural Transformation

The four cases from Myanmar illustrate how the food system is undergoing a rapid transition, in which existing supply chains are adapting to economic, environmental, market, and dietary change. A synthesis of the findings is presented in Table 1. The table presents a matrix with the different cases and how they illustrate social innovation processes linking agriculture with food and nutrition security (as introduced in Theoretical Introduction):

- Processes of enhancing resilience and adaptation in production of food;
- Inclusive participation and new roles for stakeholders;
- Community-led organisations and bottom-up initiatives;
- Different interpretations and usages of technologies;
- New kinds of agri-food partnerships; and
- Citizen science initiatives.

From the engagement in the process of the write-shop it became clear that quite a few dimensions and key elements of SI are apparent in the work of these organisations. In various ways that is already a good contribution being made to development, but the main added value that is in some ways surprising relates to the fact that (1) these organisations are coming from different angles and interests, yet (unconsciously perhaps) are applying the seeds of SI; and (2) that using a write-shop approach has the potential to bring out these somewhat intangible contributions. Considering this, it became apparent that the two-day setup was perhaps not enough to fully bring out the potential in SI thinking. To capture intangible contributions at least a three-day event seems necessary.

The cases all show examples of the application of new tools and practices that allowed farmers, development practitioners, researchers, and other actors present in the event to understand how small-scale producers respond to a growing process of commercialisation. They also show how individual farmers as well as farmer groups shift from a highly subsistence-oriented production towards more specialised production targeting markets both for their input procurement and output supply. Being flexible and having a diversified livelihood status showed to be a successful strategy applied by farmers to deal with their challenging environment. The cases show how new forms of inclusive community-led organisations are taking root, often in connection with the process of democratisation. However, these social innovation initiatives face the risk of remaining isolated and could miss the opportunity to successfully scale out in Myanmar. These types of bottom-up initiatives can inspire policy-makers, profit and non-profit organizations, and other civil society movements in finding better solutions with respect to the current challenges of Myanmar regarding agricultural development and food and nutrition security.

Table 1. Overview of social innovation (SI) elements within cases.

Organisation	SI Initiative	Elements of Social Innovation				
		<i>Processes of resilience and adaptation in production</i>	<i>Participation/new partnerships/roles</i>	<i>Community-led/bottom-up</i>	<i>Different interpretations/use technologies</i>	<i>Citizen science</i>
Fresh Studio Sustainable and Affordable Poultry for All (SAPA) program	- Aim: improving food & nutrition security and incomes of smallholder poultry and maize farmers					
	- Builds on linking two value chains (maize and poultry)	✓	✓		✓	
	- Seeks to connect consumers to farmers producing broiler chicken and the farmers producing the chicken feed (maize)					
Greenovator Greenway App	- Initiated by alumni from agricultural university					
	- Aim: share alternative agricultural techniques with farmers to help them improve their agricultural outputs and income levels	✓	✓		✓	✓
	- Seeks to actively engage with the lived realities of farmers and find ways to draw from their practical expertise					
Myanmar Heart Development Foundation Community action for food and nutrition security	- Aim: creating awareness about food security and nutrition in communities in Northern Rakhine State					
	- Example used was the “Five Colours” approach	✓	✓	✓		✓
	- Seeks to actively build on joint sense making and give meaning to food and nutrition security concerns with community leaders and to translate those into action.					
Wageningen Centre for Dev. Innovation Life course perspective study	- Prize winning village concept					
	- Seeks to identify concrete examples of SI					
	- Seeks to make explicit that using life-course research methodologies are relevant for identifying significant transformations in households and community	✓	✓	✓		✓

3.3. Added Value of the Research and Lessons Learnt

The added value of the present research lies in providing documented material on four social innovation cases as well as a methodology for how this can be done elsewhere. Complexity science points to the importance that scientists understand more about the dynamics of innovation, including the interaction between techware (technical elements), software (social/people aspect), and orgware (the institutional organisation and setup). Responsible Research and Innovation (RRI) points to the importance of trans-disciplinary research and stronger understanding of how civil society can be involved in societal change processes. The present research shows how these types of social initiatives can be identified, understood, documented, and supported, also by researchers. Societal added value for Myanmar and similar emergent economies is provided by showing how innovation processes in the context as described can be more successful by understanding and building on the social component of innovation.

The following lessons can be learnt from the social innovation write-shop in Myanmar:

- In order to be effective, interventions and policies aiming at promoting sustainable food systems have to include smallholder-farmer households' interests on agricultural production and food and nutrition security;
- Local understandings of diets and perspectives on food provide insights on possible entry points for nutritional sensitive agriculture;
- The cases show the importance for policies and interventions to be informed by participatory and holistic baseline assessment where the change perspective and visions of all the relevant stakeholders are taken into account;
- The cases show emergent new social-technical arrangements within the Myanmar food system. Whether they will achieve true change and institutionalise new socio-technical arrangements at scale will depend on further introduction and linkages with actors in the existing regime.

4. Discussion

This research showed how a structured and participative exchange and reflection process as followed in a write-shop can allow to articulate and document how farmers and their partners respond to commercialisation processes in Myanmar. The cases illustrate elements from the emergent intermediate food system in Myanmar, based on interactions between key actors like farmers and small businesses, government, and international businesses. The SAPA program showed a case where the poultry and maize value chains become more connected through PPP linkages, a new type of partnership for Myanmar. Greenovator introduced a new app on agriculture-related information, diminishing dependency of farmers on the rather weak present extension system. In rural parts of Myanmar MHDO is increasing awareness on nutritious food and builds on communities' resilience and the local agro-ecological context for stronger food and nutrition security. The WCDI case illustrated the social innovation dynamics at the village level and how policy-makers can support bottom-up initiatives and accelerate local development. The cases helped to bring to the surface valuable learning for participants and researchers, helping participants to articulate their own practice as well as to understand other SI experiences in a similar context. The study applied write-shop methodology and underscored its importance and potential to help make transformative processes concrete and documented. Write-shop methodology connects with a wide range of techniques and literature on strengthening reflection as part of action research and reflexive monitoring. Caution has to be made, however, in allowing sufficient time in preparing and conducting the event. These types of reflexive and documenting events merit more follow-up support, which was not part of the present research. Before further responsible scaling can be considered and designed, case owners will need to engage with current actors in the Myanmar food system. This process will probably result in further re-design of potential cases with validation and empirical justification before scaling can take place, whereas other cases might not be going to a next stage of development.

Supplementary Materials: The report of the write-shop is available at <http://edepot.wur.nl/432091>.

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