Developing Competitive and Inclusive Value Chain in Developing Countries: Lesson learned from an ACIAR funded Project

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Introduction, context and description of the research

The pro poor value chain approach adopted by this project aimed at building six demonstration value chains involving large numbers of men and women smallholder pulses farmers. The project conducted hands-on activities to build the capacity of the farmers and other VC participants in project sites, involving 'walking the chain' activity, post-harvest handling workshops, training on storage, grading and sorting, conducting trial shipments to identified markets. While some farmers took initiatives to adopt the best practices introduce in the project, there is limited evidence of scaling up of practices from demonstration scale to wider commercial scale at the end of four years of project activities. This is common in development initiatives. Often, when the capacity of smallholder farmers is built, their motivation and enhanced capabilities misaligns with value chain building opportunities. So, the question arises, what is the best approach to smallholders' capacity building for value chain development? The practical question behind this theme is, how can we ensure that our approach to capacity building is the right approach?

The primary objective is to understand the factors that provide farmers with the ability and motivation farmers to adopt value chain thinking and broken down into two research areas:

- To identify the understanding of value chain concept among the participants farmers and Farm Field Facilitators (FFFs)
- Exploring the enablers and barriers that hinder farmers' adoption of Pulses value chain practices
- To recommend or improve the right model of VC capacity building among the farmers and other participants

Literature review

Over the last one decade the main focus of development agencies is to develop pro-poor value chains that addresses the full range of activities (e.g. input supply, market-oriented technology development and its transfer, infrastructure development, credit**,** processing and marketing) in a coordinated manner rather than dealing in isolation (IFAD 2021, ACAIR 2015, ADB 2021, UNIDO 2016). These approaches are characterized by participatory learning, peer interaction, and exposure to real-world market conditions which demonstrate the benefits of working together in a value chain framework. This is because the participatory approaches have significantly improved farmers' technical knowledge and skills to deal with opportunities arises in the market (Davis et al., 2012; Galtier et al., 2014).

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Participatory learning is embedded in the adult learning and the motivation for adults to learn stems from two sources inadequate knowledge or inadequate capability to apply existing or new knowledge (Mezirow 1990) or conceptual (technical) and operational (practical) knowledge and skills respectively (Knowles et al. 2005). The style of learning that best suits them is experiential learning. For learning to be effective a learning environment that is open, friendly and appreciating must be established between the participants and facilitators (Davidson & Ahmad 2002; Roger 2003; Coutts et al. 2005) .

Kolb et al. (2000) claim that learning styles vary between individuals and therefore how participatory development program activities are designed and delivered will also impact on knowledge transfer and motivation to change behaviour which vary from individual to individual. For example, in the two major growing areas of mango in Pakistan, groups of mango growers emerged, brought together by common interests in marketing better quality mangoes, particularly to export markets. These groups market and sold their mangoes under their own brands, adopted the project's 'best practice' systems, used project market intelligence/information, and receive technical support and training from project team members. One of these groups, Sindh Mango Growers and Exporters, has used the project's research results and resources to build its own value chain and has become the first to successfully sea freight Pakistan mangoes under controlled atmosphere conditions to the European Union (ACIAR 2015)

Volerly and Macgregor (2009) posited that variation of motivation sometime due to dominance of the lead farmers in a group or cooperatives which often resulted in extractive relationships, where smallholders have little say in these groups. The suggested that agricultural extension services providers could play an effective role in reducing the trust deficit among the participants. However, their role should not be superficial and the success and sustainability of the development project depends on open coordination and strong follow-up even after the project.

Despite the technical capacity building of the stakeholders, IFAD (2021) founded that remote location and disintegrated farm lands of the smallholders is another inhibiting factors to develop successful linkages with their end markets due to high transportation cost and poor services. UNIDO (2020) assumed that the private sector plays the leading role in overcoming issues of remoteness if they are convinced with the availability of desired quality. However, it has been observed in the mango value chain project that the small farmers who were closed to the high end urban markets were more motivated to develop their sustainable linkages than the farmers in remote areas (Mehdi et al. 2017). In such interventions, involvement of private sector can be beneficial by fostering agricultural entrepreneurship and the promotion of the use of ICT along the value chains. It is further proposed that more cooperation and coordination will lead to stronger relationships among value chain actors thus will result into more robust and resilient value chains in Pakistan (ADB 2021).

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Based on the literature review it can be summarised that essence of participatory demonstration value chain approaches depends on motivation to change, resides within the population of the local community because they are more capable of doing their own appraisal and analysis than its being imported solely from outside**.** Innovative adaptations, localized solutions, and strong stakeholder coordination are the key to success for developing and scaling up the value chain.

Methodology and methods

The focus of this research is the evaluation of a specific development project "pulses value chain" that was implemented in a specific context over a specific period. The objectives of the evaluation were presented in the form of research objectives in the introduction. Through these objectives it is to determine to what extent the activities undertaken as part of the ACIAR project were successful in improving value chain understanding among the farmers and field facilitators and what were the enables and barriers that hindered in scaling up the DVCs lead by the farmers. This approach is typical of what Yin (1994) refers to as a case study strategy which is qualitative in nature.

Patton (1990) identified credibility as a major issue in qualitative research. Janesick (1994 p. 216) describes credibility as involving …description and explanation, and whether or not a given explanation fits a given description. Merriam (1998) assert that credibility has its foundation in a research design that optimizes validity and reliability of the research outcomes. In this research validity and reliability are addressed by collecting data from multiple sources such as three farmer focus group of three different sites, field facilitators engaged in the projects, and published reports concerning the project.

Patton (2002) argued that data used in qualitative case study research may be derived from a wide range of sources, but the most common are interviews, documents and personal observation and focus group studies. Semi structed interviews were conducted with Farm Field Facilitators (FFFs) engaged in three sites of the project and three Focus group were conducted with farmers engaged in these sites including Lawa and Mankera from Punjab, KPK. Each focus group consisted of 8-10 farmers who had been involved at least three years in the project activities.

Data Analysis

In qualitative analysis there is a strong emphasis on describing the world as it is or the situation perceived by different respondents or participants in particular context (Dey 1993). Therefore, the initial step in qualitative analysis is to develop a comprehensive description of the phenomenon under study which refers to as a thick description of the data. In this study, this initial thick description was achieved by breaking the interview and focus group data into short statements which reflected the individual respondent's and group perceptions of the relevant activities and their impact on knowledge, skills and behavior to develop DVCs. Connecting results to some meaningful outcome is the ultimate objective of a qualitative study. This connecting results to meaningful outcomes was conducted through reflection from data by the researcher.

Results and Discussion

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The results are compiled around the three objectives of the study as described in section 1.
The analysis of three focus groups indicated that the value chain understanding reflected benefits of accessing a specific market segment is in form of promising returns (20-30%) due to reduction in the wastage (Katcher, debris etc) and grading (6-7 mm in case of chickpea).

A distinguishing feature of the pulses project was its initial activity that was referred to as the "walking the chain" activity conducted in first year 2019. The "walking the chain" activity was critical to this approach by exposing the participants in the activity to what was involved, in a practical sense for a quality pulse.

> *We observed that clean and well graded chickpeas and other pulses in superstores (e.g. SB Faisalabad) which were prepared in their storage house by the women and packaging was done as per the store need (Small farmers in a focus group 1)*

However, the reaction of all the lead farmer from three focus group were positive who had participated in the "walking the chain" and other activities (on-farm workshops, trial shipments etc.) which clearly indicated that:

- their knowledge of alternative post-harvest practices such as cleaning, grading, storage and branding had increased which is essential to create value for the end consumers
- their existing positive attitudes towards changing traditional postharvest practices had been strengthened and two of them agreed with the project team to buy cleaning and grading machines on 50/50 financing (50 by the project and 50 by themselves)
- their motivation had been raised by witnessing the rewards that could be achieved by adopting cleaning and grading machines as one of the lead farmers from three focus group developed new linkages of selling chickpeas on premium price to retailers and wholesalers

However, farmers who were not the participants of walking the chain activity but the part of farmer clusters (site 1, 2, 4) and engaged in the project other activities (field workshop) were unfamiliar with the market opportunities other farmers experienced lively. But they were convinced that being the part of a cluster they have seen the benefits of sorting and cleaning of the produce desired by markets in Sargodha, Islamabad and Faisalabad were impressive. The participants of the site 3 (Sindh) were entirely new farmers despite the facts it was asked time and again to the concerned Project team leader to engage the regular participants for focus group study.

Cleaning and grading practices were acknowledged and the skills needed to perform these improved practices were relatively simple and easily performed. Some of them have tried with best practices and got better price in their villages. They showed little motivation to transform their existing practices at the scale level as they had poor connection with the potential markets

identified. It was expected that the lead farmer would play his role to pool their produce at one place but he had another reason not for doing this:

> *It is very difficult to bring produce from the other farmers in cluster at one place because they had different varieties and their quality is not uniform ….they also demand money immediately and I had to wait long from the customer (Lead farmer one)*

In consistent demand and delay in payments from the commercial partners is a common characterises both in traditional and improved value chains in developing country like Pakistan. Project team facilitated in signing agreement between the lead farmers (Focus group 1) and Concave Agri. Concave Agri agreed to share the market feedback with the farmers and fair reward of their produce based on the price they would receive from the end consumer. Despite the multiple commercial trial shipment, the lead farmer was little convinced to capitalise this opportunity.

> *…….due to demand of little volume and delay in payments by the Concave Agri it is very difficult to continue my business with them (Lead farmer Case 1) .*

Conversely, time and again Concave Agri registered their complaint to the project team that the farmer was unable to supply full (all kinds of pulses) and well in time. Project team claimed that the expectations of the Concave Agri were beyond the project scope, and they have talked to the lead farmer to supply the other pulses and grain (wheat), if possible. This is the point where the project team misaligned the project objectives with the project activities. Giving extra burden to the lead farmer and without any control on the other products may lead to mistrust among the interacting parties which was evident in this situation.

An alternate reason of failing of scaling up might be giving multiple roles to lead farmer 1 such as FFF, organising machine operations, on-farm field workshops management, trial shipments with multiple stakeholders (factory, wholesalers etc) which inhibited him to focus on how to scale up his businesses with some potential clients. The multiple tasks of lead farmers and limited consultations with other farmer reduced the success of scaling up the existing business opportunity. However, his attitude to work with a new commercial partner from his own link was very positive and he achieved some column supplies with him.

> *I have successfully built linkages with new superstores in my region ''Chashma Superstore.. and supplying regular consignments of chickpeas (Lead Famer 1)*

A similar kind of stories were also observed in other case in Bhakkar where the lead farmer was dominated in trial shipments and convinced to supply to factory and wholesalers. He achieved some success with factory supply of one truck and convinced to work with the same in coming season. However, he showed that demand of the mills was very high in terms of quantity which could not be meant by himself alone. He also showed the same concerns like the lea farmer 1 regarding multiple quality due to variability in the use of see by the farmers. There is little evidence

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is found in any commercial consignment in Focus Group 3 despite the fact the understand the benefits of cleaning and grading.

Based on the overall findings of three group studies and FFFs interview it can be concluded that knowledge and skills in post-harvest quality management practices were reinforced by market knowledge among wider level of farmers who were directly engage either in walking the chain activity or thereafter trial shipments and field workshops. The change of selling directly to retailers and wholesalers from being completely dependent on traditional value chains to improved value chain were evident among the lead farmers mainly up to trial consignments organised in the project There is limited success in scaling up the value chain due to following key inhibiting factors.

- Little capacity of the farmers to scale up under the leadership of lead farmers due to his dominant role (Volerly and Macgregor 2009), high transportation cost due to remoteness of the villages (IFAD 2021).
- Expectations of the commercial partners is beyond the project objectives e.g. demanding other pulses and other gradin that indicated poor coordination among the project team and the participants engaged (ADB 2021, UNIDO 2020)
- Lead farmers had been engaged in multiple assignments e.g. machine and workshop organisers, FFF, trial consignments indicated engagement beyond the capacity of a farmer and more expectation of the project team from a one man sowed poor participatory effort (Davidson & Ahmad 2002; Roger 2003; Coutts et al. 2005)
- the on-farm quality management workshops were mixed up with the value chain activities which showed the poor management of activities as deigned by the project team (ACIAR 2015)

Conclusion and Recommendations

This research indicates the participatory value chain development project aimed to build demonstration chain must have two critical components that impact on the effectiveness of project: one knowledge and skills desired by the participants; secondly the delivery of the knowledge that motivate the participants to transform their traditional practices. The first component of the project was met with adequate success as most of the participants understand the importance and benefits of cleaning and grading in synchronization of their market need therefore the understanding of the value chain is significantly addressed. However, limited adoption of value chain practices was limited to few lead farmers and thereafter the scaling up of the value chain demonstration constrained with certain delivery mechanism issues across six sites reflected from three focus group studies. For further scaling up of value chain learning it is highly recommended that the planning and implementation of the project activities must be involved in close and extended level of collaboration and coordination with the participants involved (farmers and commercial partners.

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Engagement of multiple farmers is the spirit of inclusive value chain development. Assigning the multiple roles to a lead farmers is complex phenomenon which cannot be handled amicably.

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