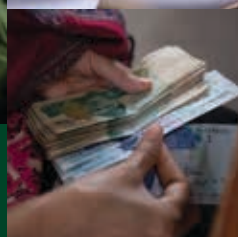


# Enhancing Smallholder Incomes by Linking to High Value Markets in Pakistan's Punjab and Sindh Provinces



WORLD BANK GROUP

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# Foreword



Agriculture in Pakistan, while a shrinking fraction of the overall economy, remains by far the biggest employer particularly in rural areas, and is an especially important sector from a rural livelihood and food security perspective. The sector contributes 19 percent of GDP and employs 38.5 percent of the labor force.<sup>1</sup> Pakistan's high population growth rate, at 2.4 percent annually, and urbanization rate are pressurizing the agriculture sector not only to increase production, but also to respond to a changing and diversifying food consumption pattern.<sup>2</sup> A growing number of urban consumers in Pakistan prefer non-traditional high value products and convenience food more than rural consumers.

Because of low overall yields and productivity, and a highly distorted agricultural market, the country has become a net importer of food items. Agriculture remains dominated by a few low value crops and there has been insufficient innovation to boost the yields and productivity of inputs. Given the increasingly small farm size due to the fragmentation of land over generations, this transition away from low value crops to high value agriculture is necessary to increase the dynamism of the sector and the incomes of rural households engaged in agriculture.

The future dynamics of Pakistan's agriculture will strongly depend on the extent to which the sector can transform itself to become more productive and commercial. For agricultural producers to effectively access new markets, specific investments and strategies are required, and the country needs to develop targeted mechanisms to support market integration to generate important developmental gains. Since the agriculture sector employs the poorest segment of the population, it is important that these market integration efforts ensure their inclusion. This requires a policy environment that encourages markets and private actors to act in a way that is aligned with the objectives of agricultural development, food security, and poverty reduction.

This report reviews and lays out options of mechanisms that can be considered for driving market integration of agricultural producers, in particular for the majority of smallholder farmers in Pakistan. The findings outlined in this report are based on a series of background studies undertaken in the provinces of Sindh and Punjab and the proposed recommendations reflect a deep understanding of past experiences and future opportunities. As such, we believe this report will make a useful contribution to the development strategy of the World Bank and other development partners in Pakistan, and we hope it will contribute to enhance agriculture dynamics to the benefit of Pakistan's agricultural producers as well as to improve the diversity of the food supply in support of better nutrition outcomes.

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<sup>1</sup> Pakistan Economic Survey 2020-21.

<sup>2</sup> The proportion of the population living in urban areas increased from 35% in 2010 to 37% in 2019, compared to an increase from 31% to 34% in the same period in the South Asia region (Source: WDI).

# Acknowledgments



This report was prepared by a team led by Alexandra Horst (Senior Economist, Agriculture and Food Global Practice, World Bank) and Steven Watkins (Lead Agribusiness Specialist, Food and Agriculture Organization), under the overall guidance of Loraine Ronchi (Practice Manager, Agriculture and Food Global Practice, World Bank) and Willem Janssen (Lead Agriculture Economist, Agriculture and Food Global Practice, World Bank). The authors gratefully acknowledge the valuable series of background papers used in the report prepared by a team comprised of Heman Das Lohano (Professor of Economics at the Institute of Business Administration, Karachi), Mubarik Ali (Former Member of the Food, Agriculture and Climate Change Planning Commission of Pakistan), Khuram Nawaz Sadozai (Associate Professor, Department of Agricultural and Applied Economics at the University of Agriculture, Peshawar), Inshan Ali Kanji (Agriculture and Financial Inclusion Expert) and Zeeshan Mustafa (Agriculture Value Chain and Market Integration Expert). The team expresses its gratitude to David Tuchschnieder, Azeb Fissaha, and Amanullah Alamzai for providing strategic guidance on the report as peer reviewers. The team also thanks Guo Li, Jean Saint-Geours, Myriam Chaudron, Rahat Jabeen, Sachiko Kondo, Namesh Nazar, Alban Bellinguez, Joel Hourticq, and Javed Memon for their thoughtful comments and feedback received at various stages of this study.

This report is linked with and complements related analytical pieces developed within the Pakistan Agriculture Sector Review which seeks to explore the enhancement of agricultural development and the acceleration of a reform-based transformation of Pakistan's agriculture and rural sector. These pieces include a study on the Urban Food System in Pakistan which aims to provide policy, institutional and investment recommendations to improve urban food systems for better nutritional and inclusiveness outcomes in cities. Another analytical piece will review the rural space of Pakistan to identify different pathways for rural development and recommend ways to make the rural space more productive.

# Abbreviations

AI	Artificial Insemination
CPF	Country Partnership Framework
EU	European Union
ha	Hectare
GAP	Good Agricultural Practices
GHP	Good Handling Practices
HVC	High Value Crop
ICT	Information and Communications Technology
LIVAQUA	The Sindh Livestock and Aquaculture Project
MCC	Milk Collection Centre
NGO	Non-Government Organization
NRSP	National Rural Support Program
PAMRA	Punjab Agricultural Marketing Regulatory Authority
PMU	Project Management Unit
PRIAT	Punjab Resilient and Inclusive Agriculture Transformation Project
Rs	Pakistani Rupee (Rs 100 = US\$0.56)
SAR	South Asia Region
SCD	Systematic Country Diagnostic





# Executive Summary

## Introduction

**1. Pakistan's agriculture sector is lagging behind its potential and needs to focus beyond productivity improvements towards transformation through high value production.** Recent World Bank Group analytics have highlighted the need for Pakistan to overcome low productivity in the agriculture sector and improve its poor business environment and financial inclusion. They further underlined the need for interventions in agriculture to move beyond improving productivity towards the environmental sustainability of the agriculture sector and an agricultural transformation through high value production, water use efficiency and increased competitiveness, and to address distortionary policies in the agriculture sector, inefficiencies in the wholesale markets for non-traditional products, poor physical infrastructure, the limited knowhow of producers, and a lack of modern agricultural research.

**2. In support of the World Bank's development priorities to increase competitiveness and promote equity and inclusion in Pakistan's agriculture**

**sector, several projects under preparation aim to increase green and inclusive private sector growth.** The Punjab Resilient and Inclusive Agricultural Transformation (PRIAT) Project and the Sindh Livestock and Aquaculture (LIVAQUA) Project under preparation at the time of this report are aimed at: (i) overcoming low productivity and unsustainable production practices; (ii) addressing information asymmetries and promoting more inclusive market integration; (iii) improving the business enabling environment; and (iv) strengthening supply chain resilience and ameliorate the risk of environmental damage. To help inform the World Bank's approach to smallholders' market integration in Sindh and Punjab, five background feasibility studies were prepared to evaluate the current level and opportunities for strengthening producer integration in key commodity markets: fruit and vegetables (Punjab); livestock (Sindh); and fisheries/aquaculture (Sindh). The main findings and recommendations of the feasibility studies have been summarized in this synthesis report to identify and propose market linkage approaches.



## Pakistan's Agriculture Sector and Market Trends

### 3. Agriculture continues to be the main livelihood in rural areas and the country's urbanization bears great potential for inclusive sector growth.

Agriculture represents about 20 percent of Pakistan's GDP and employs almost 40 percent of the workforce. Relative rural migration trends are muted in Pakistan, with 37 percent of the population living in urban areas. These trends are mainly due to the forces of high population growth, particularly in rural areas, and the inability of the services and industrial sectors to create enough jobs to keep pace with a rapidly expanding youth cohort looking for off-farm work. As a result, thousands of smallholder producers are encumbered with increasingly smaller parcels of land and meager livelihood prospects. In absolute terms, however, urbanization is significant in Pakistan due to its ever-expanding population.

### 4. Pakistan's farming sector is highly fragmented.

Small average plot sizes and livestock holdings dominate farming, which creates difficulties for linking to markets. The latest agriculture census (2010) noted that, of the 8.3 million farms in Pakistan, 89 percent were less than 5 ha, accounting for 48 percent of the national farm

area. The livestock subsector represents 60 percent of Pakistan's agricultural GDP, but smallholders dominate the industry: 94 percent of farms own less than 10 cattle and buffalo, accounting for 67 percent of cattle and 71 percent of buffalo in Pakistan.

### 5. Pakistani agriculture is not realizing its full potential.

Although there is agricultural activity in all areas of Pakistan, most crops are grown in the Indus River basin of Punjab and Sindh producing roughly 80 percent of national output. The agriculture sector is operating below the potential yields that the well-irrigated and fertile soils of the Indus irrigation system could produce when compared to productivity levels in similar regional and global farming systems. The food and beverage processing industry is the second largest industry in Pakistan after textiles, accounting for 27 percent of the value-added production and 16 percent of employment in the manufacturing sector. Most of Pakistan's food processing industries are located in Punjab (60 percent) and Sindh (30 percent).

### 6. The vast bulk of fresh produce passes through traditional marketing systems onto consumers.

This carries substantial costs, especially for smallholder producers, where supply chains contain multiple



intermediaries including village-level consolidators, transporters, wholesalers and commission agents in state-regulated government markets, and retailers. The long chain of intermediaries inflates the prices paid by the end consumers. Farmers are often in unfavorable bargaining positions as their holding capacity and market information are low. They are unaware of quality standards, if any, and traders are more adept at judging the in-field returns (e.g., dressing percentages, harvest returns from an orchard). Additionally, the lack of transparent trading practices in the markets represented by trader collusion and improper or no weighing procedures, the limited availability of market infrastructure (e.g., pre-cooling facilities), and an inadequate transport and logistics infrastructure lead to wastage that can amount to 20-30 percent through the supply chains.

**7.** Pakistan, as a lower middle-income country with high population growth, increasing incomes, improved communications and urbanization, has followed global food demand trends. **Pakistan's growing middle-class consumers now demand more dairy products, meat, fresh fruit and vegetables, and processed convenient foods, and less unprocessed grain staples.** These trends, plus the liberalization of markets, attracted many large foreign and local companies such as Eximp Agri Products (rice), PepsiCo (potatoes), Rafhan (maize), Pakistan Tobacco Company (tobacco), K&N (meat and poultry), and Nestle and Engro Foods (milk) to Pakistan's food sector.

**8.** Despite the significant transformation of the urban retail sector, and the moderate transformation of the fresh produce wholesale sector, little information is transmitted back to producers because supermarkets and most agro-processors continue to source the bulk of their requirements from wholesale markets. **Farmers' capabilities are low as they are not well informed of the standards required by supermarkets, processors, exporters, etc., and even more critically, they lack the capacity to achieve those standards.** Absent are contractual relationships and the emergence of specialized wholesalers dedicated to modern supply channels. This results in lost opportunities for local farmers to supply the higher quality produce increasingly demanded by the growing urban middle classes and, consequently, to receive higher returns for their work.

## Punjab's Higher Value Crops

**9. The increasing domestic demand for fruit and vegetables encouraged an expansion in production of higher value crops,** including fruits and vegetables, in Punjab. Except for the potato industry, the increased production was driven by the expansion of cultivated area rather than any productivity improvements. A significant recent reform in produce marketing is the Punjab Agriculture Marketing Regulatory Authority (PAMRA) Act which aims at increasing competition in agriculture markets. PAMRA's main task is to register and deregulate wholesale markets, collection centers, warehouses, cold storage facilities, accreditation bodies, and service providers (brokers, graders, assayers, commission agents, etc.).

## Sindh's Livestock and Aquaculture

**10. Consumption trends in Sindh for animal-based foods have increased,** although most consumers still prefer raw, warm milk, live chickens and unpacked meat. The lack of modern infrastructure and services along key commodity supply chains contributes to these trends. Most milk supplies (80-90 percent) continue to be marketed through traditional channels as unpasteurized milk which leads to high contamination levels due to poor hygienic practices, the absence of chilling, and adulteration by producers and traders. About 20 percent of the national ruminant livestock herd is located in Sindh. Meat is the main source of protein in local diets and Sindh supplies about 30 percent of national production. Most of the increase in demand for meat in Pakistan has been met by poultry, which is the cheapest meat. The production strategies, business set-up and processing in the poultry industry are the most advanced of any meat subsector in Pakistan.

**11. The bulk of expected future demand for aquaculture products will need to be met by fish farming.** The volumes of marine captured fish have remained steady at around 500,000 tonnes for the past decade and are unlikely to grow considering coastal fishery stocks are over-exploited and cannot sustain the current levels. Fishery exports, mainly to China and

Thailand, have risen steadily during the past decade and amounted to US\$474 million in 2019.

## Proposed Market Linkage Approaches

**12. Efforts to form producer groups in Pakistan have not proven sustainable once project or NGO support ends.** The cluster approach has proven more effective in developing market opportunities. Producers will not generally self-organize into groups but rather congregate around a mutually beneficial economic purpose (e.g., selling to a common agro-processor) or a piece of infrastructure for collective action, such as aggregating their produce for certain buyers. Interventions to support smallholder commercialization, such as market analyses, contract farming, certification, and strategies to strengthen local business development and value chain investment have been deficient within the agriculture sector of Pakistan.

**13. Producer Collection Centers** provide points of aggregation for growers to either individually or collectively sell their produce. The availability of bigger quantities of fresh produce, sorted into quality grades, would attract a wider range of buyers seeking larger volumes for ease of transportation. These improved economies of scale promote more competition between buyers and should propel higher returns for smallholders. Collection centers have delivered effective results for smallholders selling fresh milk daily that needs to be chilled, and this model could be replicated for other perishable commodities (i.e., fish, fruit and vegetables). The ownership and management of the collection center is possibly the most important issue impacting the efficiency, profitability and sustainability of the center, and thus, a key challenge to the advancement of this approach among the target commodity subsectors.

**14. The Productive Alliance** approach aims to change the buying and selling culture from the occasional and opportunistic sales transactions of individual farmers to transient traders, to a more consistent sales approach that builds relationships between registered producers or groups of registered farmers selling to known trading partners. The public partner or the project's team

would be the driver of the partnership by creating the conditions for the development and exploitation of the identified market opportunity by focusing support on the weak links in the supply chain. Alternatively, smallholders could be connected to a larger producer or trader with experience and longer-term downstream linkages. The limitations to sustainably link smallholders to higher value markets include their lack of timely supply and the uneven quality of the produce delivered to buyers. Projects need to employ specialist intermediaries to help bridge the gap between producers and companies. The main barrier to these more formal supply transactions is the lack of trust between all groups, both horizontally and vertically, within the supply chains.

**15. Tackling supply chain weaknesses in existing marketing systems**, such as food losses and waste (both on-farm and downstream) in an efficient, sustainable and integrated way provides an opportunity to reduce costs and value erosion in a relatively cost-effective way that would potentially increase the incomes of all chain players. Chain integrators may be able to introduce new standards and technologies in the sector that support smallholder farmers in improving their production quality and quantity. These more progressive intermediaries often have a strong focus on service provision but with a commercial attitude. The major barrier to improving the existing marketing system would likely be the strong vested interests among the various intermediaries to maintaining the status quo. Assistance with product pricing, the relationship between buyers and smallholders, timing of payments, quality issues, location of sales, production-related decisions, timing of selling, access to inputs, and investment costs are all possible entry points for project interventions to improve existing food marketing systems.

## Recommended Interventions

**16.** The following **recommended project activities** are based on the lessons learned from previous market linkage efforts highlighted in the feasibility reports for each commodity and project experiences that specifically aim to improve marketing outcomes for smallholders.

- **Identify the market opportunities that will guide subsequent project interventions.** Support agencies undertake a series of stud-

ies to understand key issues such as market demand, local production conditions, the business environment, interests of farmers, traders and agribusinesses, and the farmers' ability to access business support services including extension advice.

- **Define the exclusive benefits that cooperation will generate for value chain players.**

Collective action is most successful when farmers perceive that the benefits from group activities outweigh any additional costs. Project teams should clearly identify these potential benefits early and develop/increase the group's performance through production intensification and marketing improvement, while also working on the organizational aspects of group formation.

- **Target external financial and technical support** to help small-scale producers and agribusinesses access financial, managerial and business services. Provide technical assistance to help smallholders meet quality standards, implement efficient agronomic techniques, understand markets, develop business proposals, etc. If projects disrupt traditional sources of credit (e.g., trader advances), then alternatives need to be identified that provide long-term, sustainable funds for smallholders.

- **Prioritize producer collaboration** over formal organizational structures as farmers should decide for themselves whether they wish to operate as a formal group or remain a loose alliance. The group development process should use a bottom-up, member-owned, democratically-operated approach with transparency in operational rules and management decisions.

- **Assist farmers to improve their on-farm productivity** and production decisions to be more aligned to market demands by:

- Overcoming market information asymmetry.
- Developing or improving smallholder-targeted infrastructure.
- Facilitating production diversification.

- Adapting innovative technologies and practices.
- Facilitating the provision of extension, financial, and business development services.

- **Monitor outcomes** that maintain a focus on desired smallholder producers results and supply chain improvements that could possibly be expanded and replicated in other project areas.

## Institutionalization

### **17. Establishing a permanent Project Management Unit (PMU) is the recommended option for institutionalizing market integration work in the provincial governments.**

The PMU would be established within the Agriculture Marketing Secretariat under a Board of Directors chaired by the Secretary, with members from the farm community, the private sector, NGOs, and the government. The PMU would include units responsible for: social mobilization; project implementation; market integration; financing and administration; and capacity building. Alternatively, the responsibility for managing market linkage projects could be allocated to an existing government agency such as the Agriculture Delivery Unit (Punjab), one of the various semi-autonomous companies or programs already developed in each province during previous donor-supported projects, or a combination of these organizations, particularly those with certain expertise (e.g., financing).





# Introduction

**18. Pakistan's agriculture sector is lagging behind its potential and needs to focus beyond productivity improvements towards a transformation through high value production.**

The 2020 Pakistan Systematic Country Diagnostic (SCD) highlighted that, while Pakistan has made progress on poverty reduction since the early 2000s, the country has faced recurrent macroeconomic crises and is stuck in a low middle-income development trap.<sup>3</sup> For the agriculture sector, the SCD emphasized that direct state intervention has “contributed to strengthening the monopsonist power of licensed traders/middlemen, and expanded the scope of patronage by political and landed elites to the detriment of small farmers, and of a competitive development of marketing services and infrastructure.” It identified overcoming low agriculture sector productivity and improving the poor business environment and financial inclusion as key activities to support the World Bank's priorities of increasing Pakistan's competitiveness and promoting equity and inclusion for sustained

poverty reduction and shared prosperity. In line with these priorities, the World Bank's 2022-2026 Pakistan Country Partnership Framework (CPF) underlines the need for interventions in agriculture to move beyond improving productivity towards the environmental sustainability of the agriculture sector and an agricultural transformation through high value production, water use efficiency, and competitiveness.<sup>4</sup> These findings are aligned with the most recent Country Private Sector Diagnostic (CPSD) for Pakistan, which reiterated the inefficiency and low-value addition along agricultural supply chains in the country given “the spillover effects of distortionary policies in the agriculture sector, inefficiencies in the wholesale markets for non-traditional products, the absence of warehouse receipt systems and storage capacity, poor physical infrastructure, non-tariff barriers, limited knowhow of producers, and a lack of modern seed research.” At the same time, the CPSD identified agribusiness as a high-potential sector that could unleash private sector growth and attract in-

<sup>3</sup> World Bank Group (2019). Pakistan Systematic Country Diagnostic.

<sup>4</sup> World Bank Group (2022). Country Partnership Framework for the Islamic Republic of Pakistan. Draft.

vestment in the near- to medium-term, given the rapid increase in food demand of a growing population.<sup>5</sup>

**19. A key strategy to support sustainable and equitable agricultural transformation in Pakistan is to support smallholder producers,** as they are often at a disadvantage compared to larger commercial farmers in higher value markets. Smallholders are disadvantaged in these markets due to:

- Their limited access to physical and financial resources which restricts their ability to expand and invest in technologies that increase efficiency and add value to their primary production.
- Their inadequate technical skills and poor access to information and training for improving their production practices.
- Their small market surpluses which inflate marketing costs, increasing transaction costs and the per-unit costs of assembly, handling and transportation.
- Their lack of basic knowledge of the marketing system, current information on prices and market conditions, and of bargaining power.

**20. In support of the World Bank's development priorities to increase competitiveness and promote equity and inclusion in Pakistan's agriculture sector, several projects under preparation aim to increase green and inclusive private sector growth.** Specifically, the Punjab Resilient and Inclusive Agricultural Transformation (PRIAT) Project and the Sindh Livestock and Aquaculture (LIVAQUA) Project under preparation at the time of this report are aimed at: (i) overcoming low productivity and unsustainable production practices; (ii) addressing information asymmetries and promoting more inclusive market integration; (iii) improving the business enabling environment; and (iv) strengthening supply chain resilience and ameliorate the risk of environmental damage.

**21. To help inform the World Bank's approach to smallholders market integration in Sindh and Punjab, five background feasibility studies were**

**prepared** to evaluate the current level and opportunities for strengthening producers integration in key commodity markets: fruit and vegetables (Punjab); livestock (Sindh); and fisheries/aquaculture (Sindh); as well as the current market context of such commodities in each province. Based on literature reviews and field interviews with major players in each commodity's supply chain and government officials, the feasibility studies assessed:

- **Production:** previous experiences of market linkage projects in Pakistan in each subsector and lessons learned; producer organization and development; commercialization of the subsectors and producers; proposed approaches and recommendations for projects to implement collective actions within each commodity's supply chain.
- **Markets:** current structure and key players in each commodity's market; trends in each province's markets in recent years both at the macro and local levels (e.g., prevalence of traditional market systems through middlemen/traders; market distortions; key markets (export and local), etc.); previous market integration project approaches, successes/failures and lessons learned; proposed approaches and recommendations to better integrate buyers and producers within each commodity's supply chain.

The background feasibility studies captured and assessed previous activities on collective actions in Pakistan's agriculture sector to link smallholder producers to (higher value) markets, and whether the approaches were more successful when dealing with groups or individuals. The emphasis was on field experiences on production and marketing activities in the commodities' supply chains and not on value chain analyses.

**22. The key findings and recommendations of the feasibility studies have been summarized in this synthesis report to identify and propose market linkage approaches** based on lessons learned from previous experiences in Pakistan of linking smallholders

<sup>5</sup> World Bank Group (2022). Bolstering the Private Sector in Pakistan A Country Private Sector Diagnostic. See: [https://www.ifc.org/wps/wcm/connect/publications\\_ext\\_content/ifc\\_external\\_publication\\_site/publications\\_listing\\_page/cpsd-pakistan](https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications_listing_page/cpsd-pakistan)

to markets and recommend project entry points and interventions. These findings may also guide activities in other markets or provinces. The first section of this report reviews the economic transformation underway in Pakistan and its alignment with the development observed in other countries that have also undergone economic change from being primarily agrarian into industrial and service-led economies. The second section provides an overview of Pakistan's agriculture sector regarding the target commodities and provinces (i.e., fruit and vegetables in Punjab, livestock, and aquaculture in Sindh) and significant trends within the markets of these commodities during the past few years. Past market integration efforts within Pakistan's agriculture sector, particularly with regard to the target commodities, are also discussed in this section. The concluding section provides recommendations based on experiences and lessons learned from previous market linkage interventions. This last section also includes proposed entry points and activities for projects to implement such interventions. An overview of international experiences in collective actions, marketing, and value chain development as a means to promote rural development and increase incomes along agriculture's supply chains is included in Annex 1.





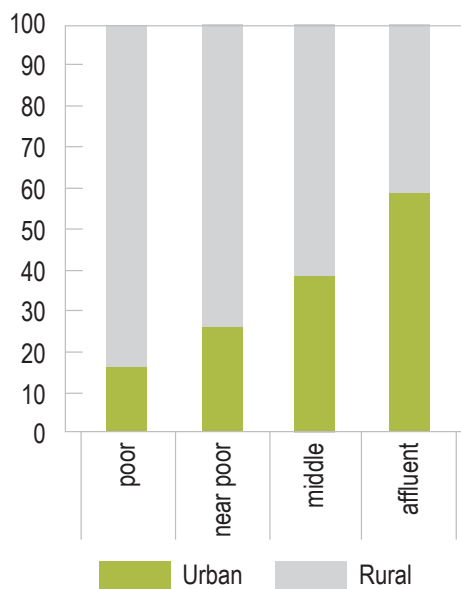


# Economic Transformation in Pakistan: A New Role for Agriculture

**23. Pakistan has experienced short spells of accelerated economic growth but has not been able to achieve sustained growth with repeated macroeconomic problems interrupting economic progress.** Private consumption, fueled by an increasing population and remittances, accounts for about 90 per cent of growth with minimal contributions from investment and exports. As demand outstrips domestic productive capacities, imports persistently exceed exports, resulting in an unsustainable current account deficit. The low rate of private investment in both physical and human capital effectively constrains Pakistan's growth potential to only a few percentage points per year. Many rural workers remain employed in low productivity jobs in the agriculture and informal services sectors due to the slow pace of structural transformation which contributes to the persistent rural-urban divide in the country (Figure 1).<sup>6</sup>

**24. An increase in farm labor productivity allows the agriculture sector to release workers into emerging**

Figure 1. Rural and urban population divide in Pakistan (percentage)



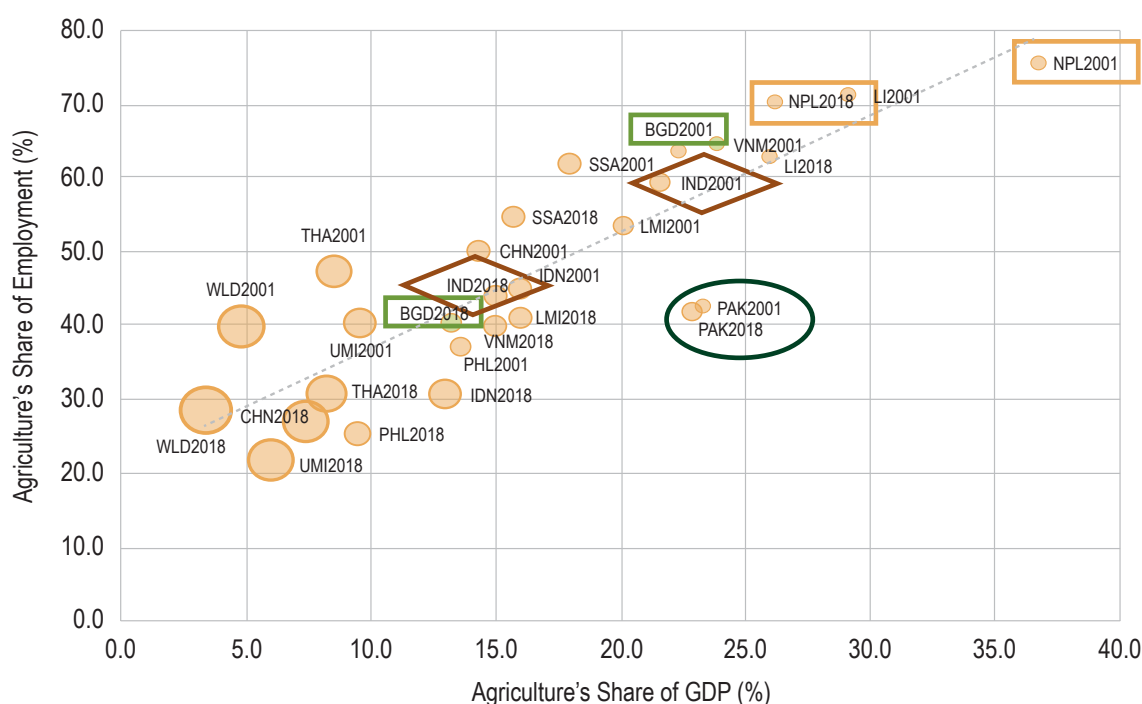
Source: OECD, 2022.<sup>7</sup>

<sup>6</sup> World Bank Group (2020). Islamic Republic of Pakistan. *Leveling the Playing Field: Systematic Country Diagnostic*.

**industrial and services sectors and thus, the proportion of the population living in rural areas steadily decreases.** One of the central insights of classical development economics is that growth entails a structural transformation of the economy (e.g., Lewis,<sup>7</sup> Syrquin,<sup>8</sup> Timmer<sup>9</sup>). The reduction in demand for largely unskilled rural workers is replaced by a higher demand for more skilled workers in the industrial and services sectors. Rural workers migrating to higher paying jobs in the mostly urban-based industry and services sectors, boosts national productivity and improvements in the lives and livelihoods of the population. This structural transformation in developing countries leads to a decline in agriculture's importance relative to the modern industrial and service sectors, mainly in urban areas, that grow much faster.

**25. Pakistan's agricultural development pathway in the second half of the last century neatly followed the structural transformation model.** Driven by the Green Revolution in wheat and rice production, labor productivity indeed grew quickly, and the sector was capable of shedding labor to manufacturing and services, while still satisfying the large and growing demand for staple foods. The focus on four major crops (wheat, rice, cotton and sugar cane) served the country well in those days. But, around the turn of the century, domestic wheat markets were already well supplied, rice production had reached a surplus and, with the possible exception of sugarcane, these crops could not pull agricultural development much forward, except by exports. As shown in Figure 2, Pakistan's transformation got stuck

**Figure 2. Structural change around agriculture in Asia: Pakistan is stagnant**



Source: Calculations based on World Development Indicators, as reported in: Ahmed, Md Mansur; Saint-Geours, Jean Edouard Albert; Gitau, Ciliaka Millicent Wanjiru. 2020. *Bangladesh - Promoting Agri-Food Sector Transformation in Bangladesh: Policy and Investment Priorities*. World Bank Group, Washington, D.C.

Note: Bubble size represents GDP per capita. Bangladesh (BGD), China (CHN), Indonesia (IDN), Nepal (NPL), Pakistan (PAK), Philippines (PHL), Thailand (THA), Vietnam (VNM). Upper middle income (UMI), World (WLD), Sub-Saharan Africa (SSA), Lower middle income (LMI), and Low income (LI).

7 Lewis, A. (1954). *Economic Development with Unlimited Supplies of Labour*. The Manchester School of Economics and Social Studies (22).

8 Syrquin, M. (1988). *Patterns of Structural Change*. Handbook of Development Economics.

9 Timmer, C. P., de Vries, G. J., and de Vries, K. (2015). *Patterns of Structural Change in Developing Countries*. In J. Weiss, and M. Tribe (Eds.), Routledge Handbook of Industry and Development.

in the 21<sup>st</sup> century. Whereas other countries grew quickly and were able to absorb employment in other sectors, Pakistan remained in the same spot between 2001 and 2018. With agricultural development slowing down, the reduction of rural poverty and hunger also slows down. In such circumstances, rural poverty increases, and the country may remain mired in poverty.<sup>10</sup>

**26. With the basic food supply secured, and with overall income levels as well as the number of consumers increasing, certainly so in the urban areas, the agriculture sector needs to focus on new and not yet satisfied demands.** Especially in the urban areas, the growing middle class started to express demand for high value products, namely animal protein (especially dairy, chicken, beef and fish), fruits, vegetables, quality oils and, occasionally, niche products such as mushrooms or olives. Through these products, urban consumers pursue more diverse and (possibly) more nutritious diets.

**27. Urbanization is even more significant in Pakistan due to its ever-expanding population** (seventh largest population globally). In 1951, 18 percent of the population was urban;<sup>11</sup> in 1997, 32 percent; in 2020, 37 percent; and some authors predict that within 10 years 50 percent may be urban.<sup>12</sup> Pakistan has eight cities of more than 1 million inhabitants (Karachi: more than 14 million; Lahore: 6.3 million) and 56 cities of between 100,000 and 1 million inhabitants. The demand for high value and more diversified products is large and booming.

**28. It is however difficult to cater to such a diversified demand in a sector that is heavily focused on producing a few crops.** The water supply that is available through Pakistan's canal and watercourse irrigation systems is mostly targeted toward these main crops, as are many of the existing policies and markets. Still, farmers are finding some ways forward. By using tube wells, they control their water supply and can grow what

they want. By investing in animals, they add value to crop residues or other feed. It maybe doesn't come as a surprise that, in response to strong consumer demand, livestock production has grown much quicker than crop production.

**29. Agriculture needs to respond to the new specific demands arising from the urban areas** and, in this process, transform from being the sector that enables structural transformation to being more of a follower. To do so, farmers or farmer groups need to discover which are their best market opportunities, according to their resource base, and the demands that they can pursue. Those opportunities will often be diverse, almost by definition: while numerous farmers may start growing oranges or tomatoes, some may find success in very small niches, like mushrooms or berries. But if they are able to tune into these new demands, farmers will have the opportunity to increase their incomes not by growing more of the same, but by growing products with higher value. This requires, however, that farmers can organize themselves to cater to these new demands. And this in turn points to an enabling environment that supports farmers in pursuing their integration into higher value markets.

**30. Although the contribution of agriculture to Pakistan's GDP has gradually fallen in the last 30 years, the sector still represents around 20 percent of the national economy<sup>13</sup> and provides work to almost 40 percent of the workforce.** The sector absorbs large amounts of an often unskilled labor force that would possibly be unemployable in other sectors (Figure 3). As in many other countries, poverty becomes a rural phenomenon. The official national poverty rate is around 5 percent, although the COVID-induced lockdowns and high food inflation may mean that more people are below the poverty line than what the official statistics show.

**31. The required modernization of the sector is not only about higher yields, but also about access to**

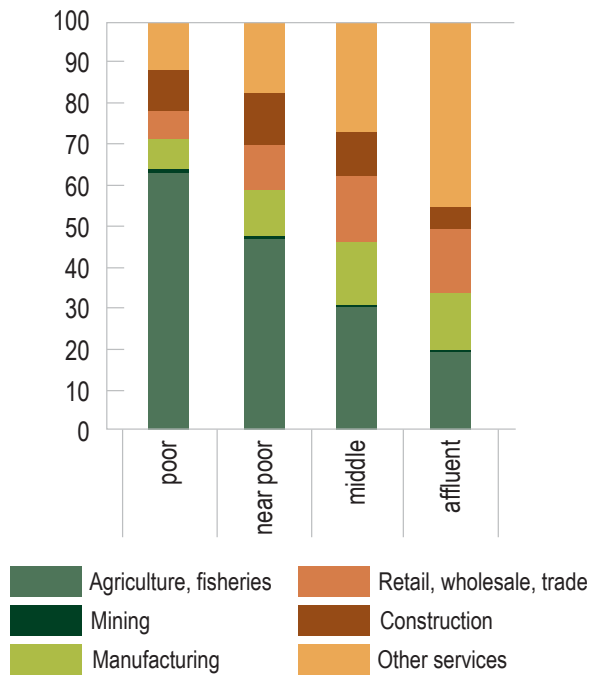
10 Timmer, P. (2022). *Ukraine Crisis Feeds Fears of Another Food Crisis*. See: <https://www.eastasiaforum.org/2022/03/13/ukraine-crisis-feeds-fears-of-another-food-crisis/#>

11 Bahrawar Jan, Mohammad Iqbal, Iftikharuddin (2008). Urbanization trend and urban population projections of Pakistan using weighted approach. *Sarhad J. Agric.* Vol.24, No.1.

12 Kugelman, M. (2014). Pakistan's Runaway Urbanization: What Can Be Done? See: [https://www.wilsoncenter.org/sites/default/files/media/documents/publication/ASIA\\_140502\\_Pakistan%27s%20Runaway%20Urbanization%20rpt\\_0530.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/publication/ASIA_140502_Pakistan%27s%20Runaway%20Urbanization%20rpt_0530.pdf)

13 All statistics from the World Development Indicators. See: <https://datatopics.worldbank.org/world-development-indicators/>

**Figure 3. Employment distribution percentages by social class**



Source: Bonet, A., et al. (2021).

**the growing high value markets and employment opportunities in food processing.** Many smallholder producers will have meager livelihood prospects unless they are able to move to a more remunerative farm use. The agriculture sector not only needs to produce more food, but also new employment and enhanced income opportunities for what is still a large rural population.



# The Agriculture Sector in Pakistan

**32. Although there is agricultural activity in all areas of Pakistan, most crops are grown in the Indus River basin in Punjab and Sindh which produce roughly 80 percent of national output.**

Considerable development and expansion of agricultural output has occurred in the past few decades; however, Pakistan's agriculture is still far from realizing the potential yields that the well-irrigated and fertile soils of the Indus irrigation system could produce when compared to productivity levels in similar regional and global farming systems. Pakistan's overall agricultural growth rates are the lowest of the region (see Figure 4).

**33. As a result of the growing demand for animal products over the past decade, animal husbandry has become the fastest growing subsector of the agriculture base in terms of income growth and qualitative change.** Livestock is a key industry and contributes 60 percent of agricultural value addition.

While the crop subsector seems stagnant, livestock has been growing at 3 percent per year, with 8 million households involved in the industry (Figure 5). The most important commodity of the subsector is milk (two-thirds buffalo, one-third cows): Pakistan is the fourth largest milk producer in the world. The poultry industry has grown at an average rate of 10-12 percent per year during the past decade and private investors are supporting a more modern, vertically-integrated industry.<sup>14</sup> Although the marine capture and inland fishery industries are relatively small contributors to the national economy, they do generate export income,<sup>15</sup> with most processing occurring in Asian destination countries. Overall, Pakistan has a positive trade balance in animal-based foods.

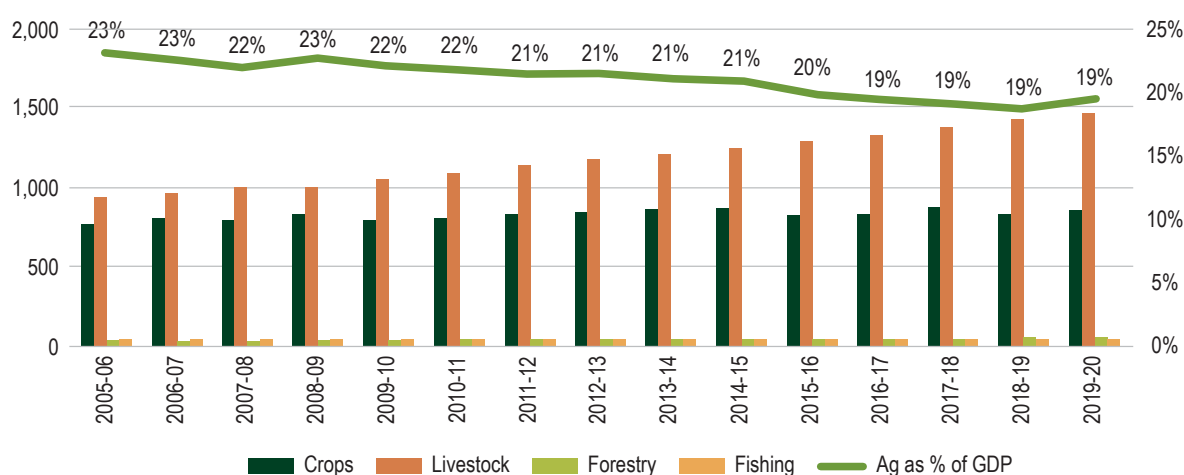
**34. Government planning and policies are devised to ensure an uninterrupted supply of basic food items at affordable prices throughout Pakistan,**

<sup>14</sup> <https://pakistanpoultryassociation.com.pk/news/an-overview-of-pakistan-poultry-industry-year-2019-2020/>

<sup>15</sup> [https://www.finance.gov.pk/survey/chapters\\_21/02-Agriculture.pdf](https://www.finance.gov.pk/survey/chapters_21/02-Agriculture.pdf)

**Figure 4. Agricultural growth and change in employment share in SAR countries**

Source: WDI, 2021.

**Figure 5. Agricultural Value Added (Rs billion)**

Source: Authors calculations based on the Pakistan Economic Survey, published by the Ministry of Finance, various years.

**leading to an agriculture sector that is heavily subsidized and regulated.**<sup>16</sup> Key policy concerns behind state interventions include: food security (wheat support prices to incentivize production; input subsidies such as water, fertilizers, energy); protection of farmers from exploitative middlemen and traders (regulation of produce markets, establishment of market committees);

and protection of urban consumers (subsidy to flour millers). While these concerns are important, the design and implementation of the policies has benefited certain elites involved in four principal crops: rice, wheat, cotton and sugarcane. State interventions have distorted markets and private investment in the physical and human capacities of the agriculture sector. These distortions

<sup>16</sup> World Bank (2020).



reduce the number of competitive traders searching for marketing opportunities for new commodities or greater volumes, which adversely impacts small farmers and the productivity of the sector.

**35. Development practitioners acknowledge that finding ways to link smallholder farmers to markets is important for any development strategy within the context of a modernizing food system that threatens to leave many smallholders behind.**<sup>17</sup> Overcoming the commercialization barrier requires an upgrading process that includes investing in local infrastructure, strengthening business services, and improving farmer skills. But with a reduction in government services during the past few decades, most farmers in Pakistan are unable to access vital technologies and services to help them commercialize their farming systems. A lack of investment along agricultural value chains constrains growth in the sector including:

- On-farm productivity is inhibited by many factors, including inadequate certified seed coverage, imbalanced use of agri-chemicals, insufficient farm mechanization, land tenure issues, credit access, static cropping patterns, low investment in agricultural research, weak agricultural extension services, land degradation and environmental hazards such as soil salinity and water logging, and limited availability of irrigation water.
- Poor post-harvest handling practices, lack of adequate infrastructure and other market inefficiencies add to post-harvest losses, wastage and weak competitiveness in both domestic and export markets for a range of fresh and processed food products.
- A lack of vertical and horizontal linkages, affordable credit and business skills hamper the adoption of new technologies and know-how in downstream industries, and thus, more local value addition.

**36. The food and beverage processing sector is the second largest industry in Pakistan after tex-**

**tiles, accounting for 27 percent of the value-added production and 16 percent of employment in the manufacturing sector.** Most of the food processing industry is located in Punjab (60 percent) and Sindh (30 percent), with more than 2,500 processing units estimated in both the formal and informal sectors. Pakistan was awarded the Generalized Scheme of Preferences Plus Status (Zero to Low Duty) by the European Union in 2014, which provides added impetus to increase exports of processed food products to higher value markets in Europe.<sup>18</sup>

**37. Pakistan's high value agricultural products, such as fruits and vegetables, are of good quality but many supply obstacles obstruct the full realization of their market potential.** The perishability of fresh produce, their seasonal nature, unsophisticated handling, improper transportation, nominal grading, fluctuating prices and high post-harvest losses (20-30 percent) are some of the factors that reduce the returns and increase the risks for marketing operatives. Pakistan has the potential to export more food products but the stringent application of international standards such as the sanitary and phytosanitary measures of destination countries limits export opportunities. Generally, Pakistan exports raw and semi-processed food products with most value addition occurring in importing countries.

<sup>17</sup> Ferris, S., Robbins, P., Best, R., Seville, D., Buxton, A., Shriver, J., and Wei, E. (2014). *Linking Smallholder Farmers to Markets and the Implications for Extension and Advisory Services*. MEAS Discussion Paper 4. USAID.

<sup>18</sup> <https://pakistan.um.dk/en/the-trade-council/sectors-in-focus/food-and-agriculture>





# Market Structures and Trends

**38. Pakistan's growing middle-class consumers now demand more dairy products, meat, fresh fruit and vegetables, and processed convenient foods, and less unprocessed grain staples.<sup>19</sup>**

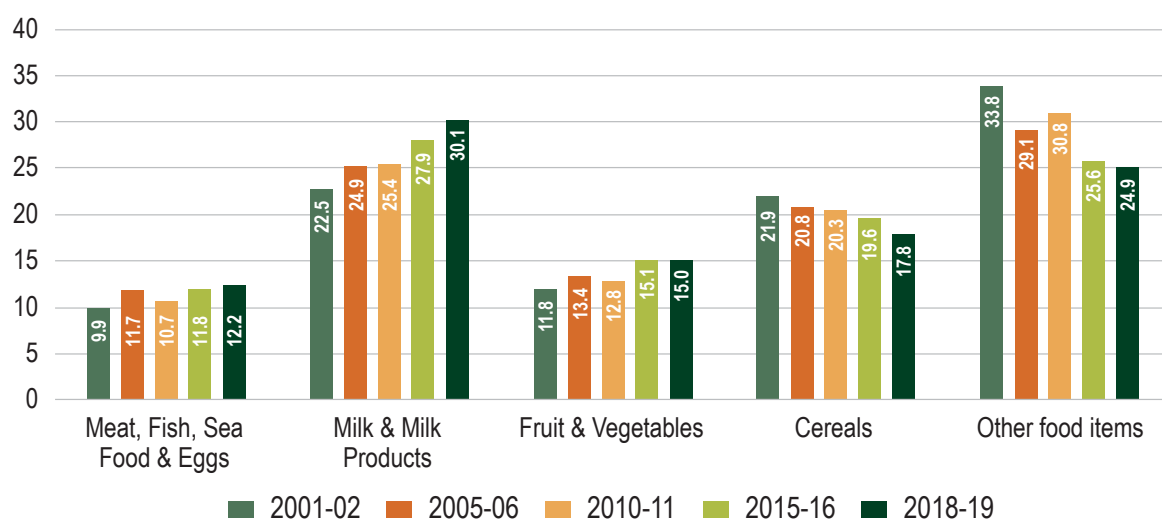
Pakistan, as a lower middle-income country<sup>20</sup> with high population growth, increasing incomes, and improved communications and urbanization, has followed global food demand trends. With rising incomes, consumers typically spend more of their food budgets on higher value foods, and increasingly demand quality over price (Figure 6). Convenience is also valued, with middle-income consumers prepared to pay more for foods that save time in preparation. These trends, plus the liberalization of markets, attracted many large foreign and local companies such as Eximp Agri Products (rice), PepsiCo (potatoes), Rafhan (maize), Pakistan Tobacco Company (tobacco), K&N (meat and poultry), Nestle and Engro FrieslandCampania (milk) into Pakistan's food sector.

**39. Research shows that, across the world, companies with large shares in food retail sales are increasingly influencing the organization of modern food supply chains, the food processing sector, and production as a whole.<sup>21</sup>** This reorganization of the supply chains aims to move away from fragmented, decentralized procurement to centralized supply systems with large, integrated procurement catchment areas and the use of specialized/dedicated wholesalers and logistics firms instead of traditional wholesalers and spot markets. Often, it is also accompanied by an increase in the use of preferred suppliers operating under de facto contracts. These modern food supply chains include stringent quality standards, in response to consumer awareness, as a means to guarantee food quality, safety, traceability and originality. Private standards also act as competitive barriers to the informal sector or competitor products, especially for small or

<sup>19</sup> Estimated annual consumption growth rates incorporating population growth: 3.1 percent for red meat, 3.7 percent for poultry meat, 5.4 percent for eggs, and 3.1 percent for milk. Source: Bellinguez, A. and Memon, J. (2021). Sindh Livestock Sector Review. World Bank.

<sup>20</sup> <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>

<sup>21</sup> Trebbin, A. (2014). *Linking Small Farmers to Modern Retail Through Producer Organizations – Experiences with Producer Companies in India*. Food Policy:45.

**Figure 6. Percentage share of household food expenditure in Pakistan**

Source: Pakistan Bureau of Statistics. Household Integrated Expenditure Surveys.

less capable producers. Thus, in modern food supply chains, there is a reduction in the number of links, as more vertically-integrated relations replace long chains of intermediaries engaged in spot market deals.

**40. The typical trends of such modern food supply chains are less evident in Pakistan** despite the significant transformation of the urban retail sector and the moderate transformation of the fresh produce wholesale sector. Negligible information is transmitted back to producers because supermarkets and most agro-processors continue to source the bulk of their requirements from wholesale markets. The small volumes of local fresh produce sold by supermarket chains is a major limiting factor to forming direct buying relationships between farmers and supermarkets. They have exhibited marginal interest in developing formal, dedicated supplier relationships with a wider cross-section of Pakistani farmers.

**41. Pakistan's agriculture sector lacks formal contractual relationships or the emergence of specialized wholesalers dedicated to modern supply channels, such as supermarkets.** The substantial number of small wholesalers and brokers in wholesale markets source from spot markets via transactions with thousands of small producers. Supermarket chains in Pakistan face problems mainly related to product quality, but because they procure relatively small volumes

of fresh produce, they cannot influence the established fresh produce supply chains and improve the overall quality standards of any subsector. Also, farmers' capabilities as suppliers are low as they are not well informed of the standards required by supermarkets and, even more critically, they lack the capacity to achieve such standards.

**42. The vast bulk of fresh produce sold in the target commodity sectors passes through traditional marketing systems (Figure 7), which highlights the important role that informal markets play in ensuring that fresh food reaches the final consumer.** These marketing systems entail substantial costs, especially for smallholder producers, where supply chains can include multiple intermediaries, from village-level consolidators, transporters, wholesalers and commission agents in state-regulated government markets, to retailers. This long chain of intermediaries inflates the prices paid by end consumers—often more than double or triple of what is paid to producers. Farmers are often in unfavorable bargaining positions as their holding capacity and market information are low. They are unaware of quality standards, if any, and traders are more adept at judging the in-field returns (e.g., dressing percentages, pre-harvest returns). Additionally, the lack of transparent trading practices in the markets, represented by trader collusion and improper or no weighing procedures, the lack of

**Figure 7. Traditional marketing channel (fruit and vegetables)**

Source: Ghafoor, A., Badar, H., and Maqbool, A. (2017). *Marketing of Agricultural Products*. Institute of Business Management Sciences, University of Agriculture, Faisalabad.

market infrastructure such as pre-cooling facilities, and an inadequate transport and logistics infrastructure, lead to wastage that can amount to 20-30 percent throughout the supply chains of the target commodities.<sup>22</sup>

**43. Public markets have failed to keep pace with the growing volumes of fresh produce flowing into Pakistani urban centers.** Pakistan's market laws restrict bulk sales and purchases to notified public markets and through licensed agents, generating an unfair treatment of farmers, welfare losses to consumers, and leaving only minimal scope for farmers to explore private alternatives. Provincial and local institutions have been largely ineffective in performing their essential functions, and consequently, public markets have become over-crowded and disorganized, forcing farmers to engage several middlemen in order to sell their produce. These public institutions have mostly failed to upgrade the infrastructure, provide the necessary facilities, and ensure that market transactions broadly adhere to the legal limits. Public utility spaces have been encroached by various market operatives; essential facilities like toilets, parking, clean drinking water, waste disposal, etc. have deteriorated to an extent that they are no longer usable; and the official rates for commission agents (*Arthis*), and market fees are openly violated.<sup>23</sup>

**44. Since very recently, reforms are underway to modernize Pakistan's agriculture sector to ben-**

**efit farmers and consumers.** In 2020, the Punjab Agriculture Marketing Regulatory Authority (PAMRA) Act was passed to establish a new and more transparent legal regime to market agricultural produce, help safeguard the free flow of crops and stimulate food supplies. The PAMRA Act's main task is to register and regulate wholesale markets, collection centers, warehouses, cold storage facilities, accreditation bodies, and service providers (brokers, graders, assayers, commission agents, etc.). It allows the emergence of non-traditional market channels such as supermarkets, online markets, and farmer markets, changes the power structure of the market, and enhances financial efficiency and transparency.<sup>24</sup> All new facilities and providers need to register with PAMRA, but existing operatives can continue to function as before. Yet, the nomination of all but one of the PAMRA members by the Government undermines the provision of genuine external input into market regulation.<sup>25</sup> While transitioning to a more competitive and diversified agriculture sector will take time, the PAMRA Act is a first step in the right direction to enhance the agricultural markets' dynamics and to ensure more income opportunities for farmers and better quality for consumers.

## Punjab's Fruits and Vegetables

**45. Increasing domestic demand for fruit and vegetables encouraged an expansion in production of Higher Value Crops (HVC) in Punjab.** With the

<sup>22</sup> See consultant reports.

<sup>23</sup> Ghafoor, A., Badar, H., and Maqbool, A. (2017). *Marketing of Agricultural Products*. Institute of Business Management Sciences, University of Agriculture, Faisalabad.

<sup>24</sup> World Bank blog (2020): Modernizing Punjab's farming to benefit farmers and consumers. See: <https://blogs.worldbank.org/endpovertyinsouthasia/modernizing-punjabs-farming-benefit-farmers-and-consumers>

<sup>25</sup> Rana, M.A. (2018). *Commissions and Omissions: Agricultural Produce Markets in Pakistan. Policy and Institutional Reforms to Improve Horticultural Markets in Pakistan*. Working Paper 01/18. Lahore University of Management Science.

exception of the potato industry, such increased production was due to the expansion of the cultivated area rather than to any productivity improvements.<sup>26</sup> Potato production in Punjab has expanded significantly over the past two decades, mainly due to a more structured, vertically-coordinated industry, where growers have closer relationships with buyers, and receive some improved inputs and technical support from processors.

**46. Traditionally, commission agents have been abusing the system by developing a successful high-risk, high-profit business whereby they extensively advance credit to a set of actors in the marketing chain to develop a loyal client base.**

For decades, commission agents have run shops in the markets where farmers and middlemen bring their produce to sell. Each agent auctions the produce, collects payment from the buyer, deducts his commission (and other dues, if any), and pays the remainder to the farmers/middlemen. The agent's success has lied in attracting more farmers, pre-harvest agents/middlemen (*Beoparis*) and buyers/wholesalers to his auction platform, mainly through his credit linkages, rather than the provision of facilities or discounts. These linkages, and

his social capital, have been built over many years of business interactions. The recent PARMA Act is an opportunity to change this traditional market system and to offer farmers more selling options and higher profits.

**47. Farmers and middlemen also try to exploit this marketing system to their advantage.**

They will carefully pack crates and boxes at the farm gate so that the best quality produce is on the top layer and each lower layer progressively declines in quality. However, buyers are aware of this practice and place their bids accordingly. Nevertheless, Pakistani farmers and middlemen assess that the lower average price received for mixed quality produce is still higher than the average price received for selling different grades separately.

**48. Wholesale traders (*Pharias*) also emerge as important market operatives.**

They buy large quantities through auctions, divide/grade produce into smaller lots and sell to retailers. The process of unpacking, sorting, grading, and re-packing takes place wherever the wholesale trader can find space in the market. This entire process must be completed within the time slot allocated to the corresponding commodity group, be-

### BOX 1. Citrus marketing margins

Pre-harvest contractors add the highest cash margins (89 percent) to the retail cost of kinnow fruits because they bear the highest costs and most risks among all marketing intermediaries. Contractors purchase an orchard at flowering and need to consider risks such as product variations, bad weather, insect attacks, incidence of disease, high transport costs, and spoilage that reduce their margins. Retailers also earn high margins. They try to buy sufficient volumes to sell in one day, which may not eventuate and could result in wasted fruit. Also, before buying they have no opportunity to properly evaluate the quality, quantity, size and color of the layers of fruit packed into crates by wholesalers that could further detract from their sale volumes, so they add higher margins to compensate.<sup>28</sup>

Market intermediary	Price addition* Rs.	Percent of final price
Producer	3.94	35.3
Contractor	3.52 (89.30)	31.5
Commission	0.55 (7.37)	4.9
Agent		
Wholesaler	0.91 (11.36)	8.2
Retailer	2.24 (25.11)	20.1
Consumer	11.15	100.0

\* Figures in parenthesis are absolute cash margins expressed as percentages.

26 Ali, M. (2022). Market Integration of Small Scale Agriculture Producers in Punjab. Feasibility report for the World Bank.

27 Source: Sharif, M., et al. (2005).

cause afterwards, the same space is used for the next commodity. All these activities are conducted manually and quickly. Wholesalers then set-up their stalls and sell to retailers and households. They have no formal standing, operate on encroached public utility spaces and need to pay 'rent' to the commission agents. Lahore and Rawalpindi are terminal markets for fruits and vegetables; distributors (*Ladanya*) also purchase bulk produce at auction through commission agents and on-sell this produce to commission agents in secondary markets.

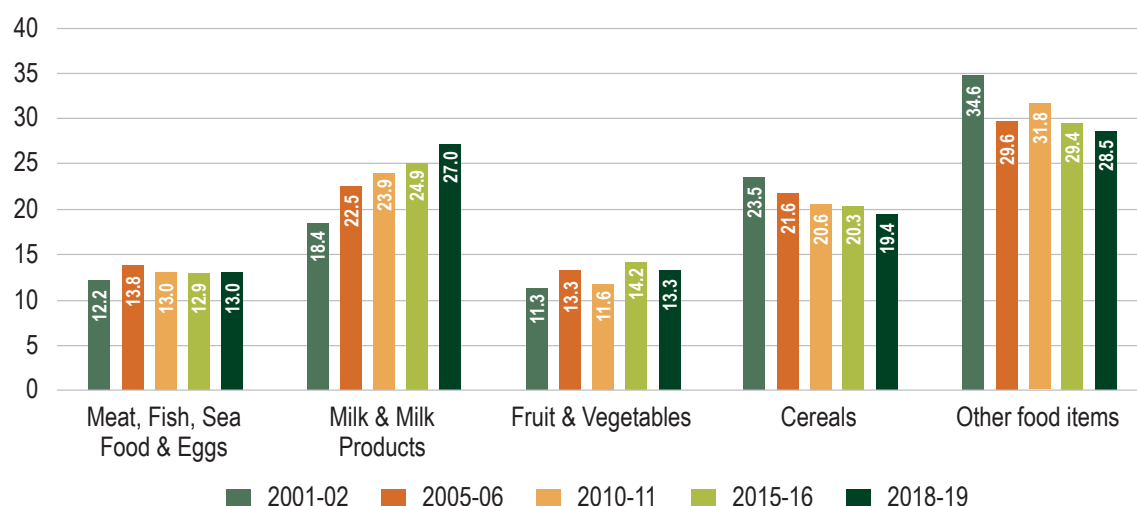
**49. Pakistan exported approximately US\$3 billion worth of fresh fruit and vegetables in 2019, mostly to Gulf countries and Afghanistan.** Punjab provides the majority of these exports, but the export growth trend has flattened in recent years. The fruit and vegetable industry continues to struggle with quality issues that limit the possibility of exporting to higher value markets in Europe and North America. Only three commodities, garlic, coriander, and gourds return higher than average world export prices. The cost of these quality issues and missed export opportunities to higher value markets is estimated at US\$6 billion per year in foregone export value.<sup>28</sup>

## Sindh's Livestock

**50. The market trends in Sindh for animal-based foods have followed the national trends during the past couple of decades.** In Pakistan's largest city, Karachi, consumers maintain their conventional food consumption patterns (Figure 8); they still mostly prefer raw, warm milk, live chickens and unpacked meat, despite a growing middle class and the increasing availability of processed foods.<sup>29</sup> The lack of modern infrastructure and services along key commodity supply chains contributes to these continuing consumption trends. Feed is the limiting factor to improving productivity in the livestock industry and represents the major cost for producers. Intensive livestock industries—dairying and poultry—compete with each other for access to the most affordable and highest quality feed in order to exploit the genetic potential of their stock.

**51. Smallholders keep livestock as a bankable asset and sell when they need cash rather than when livestock prices are high.** Weekly livestock markets are regulated by local authorities but managed by private contractors. There are 84 registered livestock marketplaces throughout Sindh. Village collectors (*Beoparis*), small and

Figure 8. Percentage share of household food expenditure in Sindh



Source: Pakistan Bureau of Statistics: Household Integrated Expenditure Surveys.

<sup>28</sup> Ali, M. (2022).

<sup>29</sup> Mustafa, Z. (2022). Overview of Potential Market Integration Approaches for Smallholders in Sindh.

mid-sized traders and commission agents are the main stakeholders in livestock marketing. Commission agents provide most of the marketing services. Prices paid to producers are determined by the weight of live animals, breed, color, physical appearance and current wholesale prices. Village collectors and traders purchase livestock directly from producers and sell them in local markets or transport animals to regional markets. Farmers can also sell their livestock in these open markets; however, all unsold stock needs to return to the farm, which can be an expensive exercise. Traders purchasing directly from producers will on-sell to other traders specializing in supplying livestock to larger regional and terminal markets, meat processors, and cattle colonies outside the local catchment area. Meat exporters may develop a network of 10-20 local traders spread through different areas of Pakistan for a more efficient supply of animals that meet their required specifications.

**52. Pakistan has a rich traditional culture and demand for livestock rises significantly during the festive season.** Many smallholders and pastoralists will prepare and sell their livestock for specific festive occasions, when prices will increase significantly dependent on the supply of animals. But accurate weighing using scales is only done during sales between wholesalers and butchers, and butchers to consumers. Animals may be sold several times before they are finally processed. Consequently, transportation and livestock handling practices detract from the final quality of the meat, as animals lose weight, are stressed and often injured during transit.

## Meat

**53. Despite Pakistan's increasing urbanization, economic growth, and industrialization, per capita meat consumption has seen minimal growth during the past decade. But due to an ever-expanding population, livestock growth rates need to reach an estimated 5-7 percent per year in order to meet the increasing domestic demand.**<sup>30</sup> Currently, Pakistan is self-sufficient in meat production, with Sindh

contributing 13.4 percent of all traded animals (mainly cattle and buffaloes) nationally.<sup>31</sup> A unique feature of the livestock industry is the presence of cattle colonies within major cities: the Landhi colony in Karachi, with 350,000 head, is one of the largest in Pakistan. Once the cows and buffalo in these colonies are dried off each year, rather than carrying unproductive animals, they are sold, slaughtered and replaced. These colonies provide a ready source of milk and meat to city inhabitants. All calves from these cattle colonies are also sold for either fattening or slaughter. However, rural areas in Sindh are increasingly struggling to supply the annual demand for young cows of these cattle colonies.

**54. About 20 percent of the national ruminant livestock herd is located in Sindh. Meat is the main source of protein in local diets and Sindh supplies about 30 percent of national production.** The main sources of meat in Pakistan are cattle, buffaloes, goats, sheep and poultry (Table 1). Most of the increase in the demand for meat in Pakistan has been met by poultry, which is the cheapest and often most preferred meat, as the price of red meat has roughly doubled in Sindh during the past two decades. Meat comprises around 13 percent of household expenditure in Sindh.<sup>32</sup> While growth in meat demand during the past decade was minimal, there was a shift in demand from fresh meat to frozen meat products or ready-to-eat foods due to evolving lifestyles, socioeconomic changes in the population and nutritional awareness. The Pakistani meat industry responded by producing different meat prod-

**Table 1. Meat consumption in Pakistan of main livestock groups**

(000 tons)	2018-19	2019-20	2019-20
Beef (cattle/buffalo)	2,227	2,303	2,380
Mutton (sheep/goats)	732	748	765
Poultry	1,518	1,657	1,809
Total consumption	4,478	4,708	4,955

Source: Finance Division (2021). Pakistan: Economic Survey, 2020-2021. Government of Pakistan, Islamabad.

<sup>30</sup> Bellinguez, A., et al. (2021).

<sup>31</sup> Mustafa, Z. (2022).

<sup>32</sup> Lohano, H. (2022). Market Structures of Livestock, Aquaculture and Fisheries in Sindh. Feasibility report for the World Bank.



ucts such as ready-to-eat convenience foods (kababs, patties, sausages, nuggets, drumsticks, etc.). The demand and purchase of processed meat products is comparatively higher in urban areas than in rural areas mainly due to the different socioeconomic status, busy lifestyles, and higher purchasing power of consumers living in the cities.<sup>33</sup>

**55. There are few modern retail outlets that provide value added meat products in attractive packaging and refrigerated form.**

The two main market intermediaries are wholesalers and retailers (mainly butchers). Animals are mostly slaughtered in notified slaughterhouses operated by municipalities, companies or the armed forces, and in backyards. In larger cities, wholesalers supply animals to slaughterhouses on a regular basis. In smaller towns, retailers/butchers purchase their own animals. In larger cities, municipal facilities are usually regulated as the sole meat processing outlets for each city's meat supply and they process between 30 to 40 percent of all meat sold locally. However, these regulations are not adequately policed, and more animals (60 to 70 percent) are processed in unhygienic, backyard facilities than in public slaughterhouses.<sup>34</sup> After slaughtering, carcasses are bought by wholesalers, who distribute them to retailers. There is minimal refrigeration along the supply chain. In local stores, retailers sell beef and mutton in fresh form, adjusting their supplies to daily demand. Some meat processing companies sell frozen, fresh and processed meat products in their own cabinets in big stores and supermarkets. There is growing demand for meat sold under these more hygienic conditions in large cities across Pakistan.<sup>35</sup>

**56. A key issue affecting the meat subsector is the lack of modern processing facilities as the beef industry is considered a subsegment of the dairy industry. Small ruminants are usually grown peripherally to the farmer's main livelihood or by**

**landless pastoralists.** In slaughterhouses, the lack of proper sanitation systems and untrained staff using unhygienic practices has the potential to cause health hazards. Additionally, old slaughterhouses have improper provision for waste discharge. Other weaknesses include the absence of cold supply chain management systems, proper meat inspection, and government legislation that fixes the prices of meat and meat products, thus disincentivizing investment in the industry.

**57. Pakistan has the potential to become a major player in the international halal meat industry and exports have grown significantly in the past decade.**<sup>36</sup>

Some meat processors in Pakistan are exporting frozen goods from their modern, well-equipped facilities and meeting the export quality standards of the main halal markets in destination countries of the Gulf, Central, and Southeast Asia (e.g., Malaysia, Indonesia). Currently, they process less than 1 percent of total meat production. There are 35 export-accredited meat processing facilities in Pakistan, of which 10 are in Sindh.<sup>37</sup> While the export figures are impressive, Pakistan is mainly exporting whole carcasses, with little or no value addition.

## Milk

**58. Pakistan consumers continue their decades-long trend of increasing demand for fresh milk and milk products** (Table 2).

Pakistan is the fourth largest milk producer in the world, with per capita consumption well above the global average.<sup>38</sup> Sindh's dairy farmers produce about one quarter of the total milk volume in Pakistan mainly from buffaloes (two thirds) and cows (one third). Although Sindh has a vibrant dairy industry, the price of raw milk has remained flat for the past decade.

**59. Almost all milk produced in Pakistan is sold through extensive and traditional market networks.** Milk collectors (*Katcha Dodhi*) are the main mar-

33 Sohaib M. and Jamil F. (2017). *An Insight of Meat Industry in Pakistan with Special Reference to Halal Meat: A Comprehensive Review*. Korean Journal of Food Science of Animal Resources. 37(3).

34 Lohano, H. (2022).

35 Lohano, H. (2022).

36 Meat exports 2009: US\$ 81 million; 2019: US\$ 295 million (Source: UN Comtrade).

37 Bellinguez, A., et al. (2021).

38 Pakistan: 113.6 kg/person/year vs. Global: 70.8 kg/person/year (Source: FAOSTAT, 2022).



**Table 2. Growth trends of milk supply and domestic demand in Pakistan**

(000 tons)	2018-19		2019-20		2020-21	
	Supply	Consumption	Supply	Consumption	Supply	Consumption
Milk	59,759	48,185	61,690	49,737	63,684	51,340
Cow	21,691	17,353	22,508	18,007	23,357	18,686
Buffalo	36,180	28,944	37,256	29,805	38,363	30,691

Source: Finance Division (2021). Pakistan: Economic Survey, 2020-2021. Government of Pakistan, Islamabad.

ket intermediaries in informal markets. They purchase milk directly from farmers and sell directly to consumers and retail shops in urban areas. They usually also provide credit services to producers. Larger operators (*Pakka Dodhi*) purchase milk from various milk collectors in bigger quantities and sell to larger customers including milk and other food processors (e.g., bakeries). With

no milk chilling in these traditional supply chains, an estimated 20 percent of milk is wasted.<sup>39</sup> Contamination is also a problem due to poor hygienic practices and adulteration by producers and traders. However, most Pakistani consumers still prefer to buy fresh, unpasteurized, warm milk each day for their household needs supplied through these traditional networks.<sup>40</sup>

## BOX 2. Dairy farming: Production characteristics and costs for smallholders vs. mid-sized farmers

Dairy smallholders and mid-size farmers in Pakistan differ on their production characteristics and related distribution of production costs. A value chain analysis on dairy production in Pakistan, which found a higher yield per animal of mid-sized farmers, suggests that better farm management skills, both in terms of diet as well as animal health, can produce substantial benefits in terms of yields (FIAS, 2006).

### Production characteristics of mid-sized farmers:

One quarter of land devoted to fodder crops and pasture, irrigated for 8 months including during the dry period, ensures a constant supply of high-quality nutrition. Feed: 80 percent is green fodder, 15 percent hay and 5 percent concentrate. Labor productivity: 5.8 kg/hr. Farmers have high value assets, including generators and wells for irrigation. Better feeding, constant supply of water for irrigation, farm hygiene, and productive crossbreed cows result in high productivity.

Production cost distribution for a typical mid-sized dairy farmer (30 cows, yield of 4,000 kg/animal/year):

- Animal Husbandry: 89.7% (of total costs)
  - Labor: 19.7%
  - Feed: 73.9%
  - Veterinary: 4.1%
  - Water/fuel: 2.3%
- Milking: 4.4%
- Depreciation: 5.9%

Production cost distribution for a typical smallholder farmer (3-10 buffaloes/cows, yield of 1,300-2,400 kg/animal/year):

- Animal Husbandry: 87.0% (of total costs)
  - Labor: 43.9%
  - Feed: 55.1%
  - Veterinary: 1.0%
- Milking: 9.5%
- Depreciation: 3.5%

**Production characteristics smallholder farmers:** Feed: 65 percent is wheat straw, bran, 25 percent fodder (maize, millet), 10 percent cotton seed cake, no concentrates. Labor productivity: 2.8 kg/hr (although labor is cheap, low milk yields and lack of scale means productivity is low). Dual purpose cattle and buffaloes.<sup>41</sup>

<sup>39</sup> Bellinguez, A., et al. (2021).

<sup>40</sup> FIAS (2006). Pakistan Value Chain Analysis.

**60. Milk processors usually establish their own milk collection centers in production areas in order to ensure quality and secure timely milk supplies.**

These collection points are equipped with chilling equipment, managed by the processors' employees, and cooling containers are utilized during transportation. Rural milk collectors and dairy producers sell milk to these collection points and they usually receive prompt payments. Only 5 to 10 percent of milk is processed in formal, modern dairies that produce hygienic packaged products for more discerning customers prepared to pay higher prices in supermarkets, dairy stores, etc. But these companies continue to expand and invest in their processing plants in response to the rising demand for convenience and hygienic dairy products. Pasteurized and Ultra High Temperature-treated milk in tetra pack are the main products. Most modern dairy processing plants are located in Punjab, with only three located in Sindh.

**61. There is a growing trend towards intensive urban and peri-urban dairy farming using mostly imported exotic and cross-bred cows for higher milk yields.**<sup>41</sup> Larger milk processors import increasing volumes of milk powder each year, and sell imported milk through their own market outlets, particularly during the summer lean period when local supplies drop, and companies need to maintain their quality standards. Thus, milk powder imports by Pakistan during the past decade have steadily increased, reflecting the growth in demand for processed dairy products.<sup>42</sup> Dairy shops in urban areas also produce cream and butter and sell them at retail outlets.

## Poultry

**62. Production strategies, business set-up and processing in the poultry industry are the most advanced of any meat subsector in Pakistan.** The industry has developed into a well-organized, vertical-

ly-integrated subsector, often in collaboration with foreign companies, with over one billion broilers processed annually. Chickens are readily available either as broilers (live or processed), layers or village birds. There are over 5,000 commercial poultry farms in Sindh with 152 million birds. The capacity of commercial farms ranges from 5,000 to 500,000 broilers.<sup>43</sup> The poultry subsector contributed 30 percent of total meat production and around 40 percent of total meat consumption, and grows at around 10 percent per year, reflecting the rising demand for chicken meat and eggs.<sup>44</sup>

**63. Marketing still mostly follows traditional channels with only 5 to 6 percent of chickens processed in poultry slaughterhouses to produce specialized products.** In villages, poultry meat and eggs are mostly produced for self-consumption, but surpluses are sold to collectors and marketed through traders and wholesalers in urban areas. Producers sometimes sell directly to retailers in live form, but most birds are sold through wholesalers. Retailers slaughter and dress live chickens in markets and shops according to demand. Many supermarkets now provide refrigerated storage and sell frozen chicken to consumers. Eggs are mostly collected by village traders and sold through wholesalers and retailers in urban areas to consumers. There is no grading system, so there are no price differentials for different qualities and sizes of eggs.<sup>45</sup>

## Sindh's Aquaculture

**64. Sindh produces over half of the national fishery output each year.** Pakistan's inland fishery production has consistently increased at low rates during the past decade and now supplies 35 percent of total aquaculture production. Sindh has experienced a rapid increase in fishponds and the efficient re-stocking of water bodies by provincial authorities has maintained a steady inland fishery capture. Pakistani consumers have a relatively low intake of fish products compared to other middle-in-

<sup>41</sup> Mustafa, Z. (2022).

<sup>42</sup> Imports of milk and milk products totaled US\$52.76 million in 2009; US\$113 million in 2019; and peaked at US\$204 million in 2015 (Source: UN Comtrade).

<sup>43</sup> Mustafa, Z. (2022).

<sup>44</sup> <https://pakistanpoultryassociation.com.pk/news/an-overview-of-pakistan-poultry-industry-year-2019-2020/>

<sup>45</sup> <https://pakistanpoultryassociation.com.pk/news/an-overview-of-pakistan-poultry-industry-year-2019-2020/>



come Asian countries.<sup>46</sup> However, the overall demand for fish products is expected to increase significantly, as alternative protein sources become more expensive and Pakistan's population continues to grow.

**65. The bulk of expected future demand for aquaculture products will need to be met by the fish farming subsector.** The volume of fish from marine capture has remained steady at around 500,000 tonnes for the past decade. These volumes are unlikely to grow significantly considering that coastal fishery stocks are over-exploited and cannot sustain the current levels of output. Besides, most companies in the marine capture fishery industry focus on export markets and provide only

small amounts to local markets. Aquaculture exports have risen steadily during the past decade and amounted to US\$474 million in 2019. The main destination countries are China and Thailand, which have significant export-oriented aquaculture processing industries.<sup>47</sup>

**66. Fish is the main livelihood for inhabitants of coastal areas with about two-thirds of total production coming from marine capture fishing.**<sup>48</sup>

Fishery agents obtain leases from the Government to fish in public waters. Inland captured fish are sold via fishery agents to wholesalers, who then on-sell to retailers. The marketing channel for marine capture fish is also dependent on fishery agents who partner with fishermen to supply processing companies. The agents receive credit advances from the fish processors. They then contact their fishermen partners to supply the required quantity of fish and seafood. The fishery agent provides credit to the fishermen at the start of the season to replenish supplies, repair boats, etc. The fishermen supply their catch to the agents, who onward the supplies to the processing companies. The companies sort the catch: high-quality fish is exported and lower-quality fish is sold on local markets. Hygiene and quality issues prevent local fish processing companies from exporting to higher value markets in Europe.<sup>49</sup>

**67. Farmed fish in iced packing is mostly sold either at the farm gate or through middlemen working on behalf of dealers in nearby markets.** Most farmers are dependent on credit from these market intermediaries to purchase feed and other low-cost inputs. They sell their harvested produce to the dealers who advanced them the credit. All fish is auctioned and sold on a daily basis. Farmers are paid mostly in cash within a week of the sale. Inadequate facilities, lack of storage, poor hygiene and communication links are the main issues affecting fish marketing. Consumers mostly prefer inland and farmed fish over marine fish due to taste and freshness issues, as demonstrated by the higher prices at wholesale and retail markets for inland fish.<sup>50</sup>

46 Kanji, I. A. (2022). Aquaculture in Sindh. Feasibility report for the World Bank.

47 Kanji, I. A. (2022).

48 Lohano, H. (2022).

49 Kanji, I. A. (2022).

50 Kanji, I. A. (2022).

## Service Providers

**68. Governments in Pakistan support agriculture through the provision of essential agricultural support services necessary to the growth and productivity of smallholder agriculture** (irrigation, agricultural credit, input subsidies, agricultural extension, mechanization, etc.). Private service providers provide key inputs such as fertilizers, seed, fingerlings, agrochemicals, and services (e.g., milk collection centers). Credit is probably the least accessible service for smallholders, which has a direct bearing on their farms' output through its impact on input acquisition and farm investment, and indirectly through its influence on risk behavior.

**69. It is challenging for smallholders to access improved services.** The most common challenges for smallholders to access private service providers, including access to low-risk finance mechanisms, are:

- The lack of economies of scale for delivery of services to producers with small farm sizes, even though smallholders produce the bulk of all the food consumed in Pakistan.
- The cost of service, as many farmers cannot afford to purchase improved equipment, inputs or access formal financial sources due to a lack of eligible collateral and the perception of high risk involved in small-scale agriculture.
- Attempts to introduce improved services or modern production practices without addressing farmers' capacity, and/or the lack of skilled people able to provide such services (e.g., machine owners are not able to operate, maintain, and repair their equipment).
- Insufficient technical support to supply, distribution, and after-sales servicing.

## Credit

**70. The limited access to affordable finance is a major problem for smallholders that affects their ability to exploit market-oriented production opportunities.** In the traditional fresh produce marketing sys-

tems that are prevalent in Pakistan, informal credit mechanisms are prevalent for smallholder producers. Traders advance credit to farmers so that they can purchase inputs, plant their crops, seed their ponds and harvest, provided that the grower repays in cash or kind once the crop is harvested. Banks and other financial institutions are hesitant to provide credit to smallholder farmers because of poor client information systems, the high cost of credit due diligence and loan recovery, the lack of cash flow financing products adapted to agriculture, the lack of weather insurance products and commodity price hedging instruments, and the absence of land tenure titles to be used as collateral. Poor confidence in the legal system to uphold contract rights is an additional concern.

**71. Even if smallholders can access the formal financial sector, most available lending products are not suitable for their investment needs.** Access to credit is normally linked to farm size, as land titles are the main collateral required by financial institutions. Larger farmers have infrastructure and machinery, which adds to their collateral. They are also mostly operating in the formal sector and have financial records to submit to banks when applying for loans. Banks can thus, more easily assess the viability of a larger farmer's enterprise compared to smallholders operating informally. Most banks also do not have experienced loan officers able to assess the profitability or capacities of small farmers' enterprises.

**72. A smallholder group approach (5 to 15 members) was introduced in Pakistan to help address the lack of collateral.** Individual farmers borrow, and through peer pressure, all group members guarantee the repayment of each member's loan. The group is either organized by the partner bank or through an NGO (e.g., Rural Support Program Network). The bank provides a loan not exceeding Rs 200,000 (about US\$2,500) for production activities and a term loan for farm improvements.<sup>51</sup> Although NGOs may help establish the groups, they do not provide technical support to formulate or monitor each farmer's investments. The loans are still risky for the banks because they lack experienced staff able to monitor and evaluate the on-farm results of the loan investment.<sup>52</sup>

<sup>51</sup> State Bank of Pakistan. Financing Scheme for Small Farmers. [www.sbp.org.pk](http://www.sbp.org.pk) › acd › FinancingSchemeSmallFarmers

<sup>52</sup> Ali, M. (2022).





# Market Integration

**73. Producer groups in Pakistan have not proven to be sustainable once the project or NGO support ends.** For example, the National Agricultural Research Centre developed several farmer groups during 2004-2009: the Kissan Welfare Association (Bahawalpur District), the Farmers Integrated Development Association (FIDA) in the Vehari District, the Kissan Foundation (Rahim Yar Khan District), and the Women's Agricultural Development Organization (Sindh). They were registered as societies under the Voluntary Social Welfare Act 1961. These organizations were active for several years but once project support ceased, the farmer organizations also ended. Only FIDA still exists in the Vehari District.<sup>53</sup>

**74. The cluster approach has proven more effective in developing market opportunities in the HVC**

**subsector, and it is the approach promoted by the Government.**<sup>54</sup> Clusters are grouped geographically, and include inter-connected producers, agribusinesses and institutions engaged in the same agricultural or agro-industrial subsector in order to build value networks when addressing common challenges and pursuing common opportunities.<sup>55</sup> The Government has identified 25 HVC products that have the potential for adding more value locally through clusters.<sup>56</sup> Producers will not generally self-organize into groups but rather congregate around a mutually beneficial economic purpose (e.g., selling to a common buyer) or a piece of infrastructure for collective action such as aggregating their fresh produce for certain buyers or developing links to specific markets. HVC market linkages examples in Punjab include:

<sup>53</sup> Sadozai, K. N. (2022). Value Chain Development and Producer Market Integration Approaches in Punjab-Pakistan. Feasibility report for the World Bank.

<sup>54</sup> This report does not elaborate on the cluster approach, which has been extensively analyzed for the Pakistani context and for which related studies on 33 agriculture commodities can be found at the following website: <https://www.pc.gov.pk/web/agriculture>.

<sup>55</sup> Gálvez-Nogales, E. (2010). *Agro-based Clusters in Developing Countries: Staying Competitive in a Globalized Economy*. Agricultural Management, Marketing and Finance Occasional Paper 25. FAO Rome.

<sup>56</sup> <https://www.pc.gov.pk/web/agriculture>

- The ten main citrus processors based around Sargodha have strong informal links with citrus farmers (mainly growing the kinnow variety), in central northern Punjab. While processors are still mostly procuring their resources from wholesale markets, some are developing more direct links with producers. There are also some producer collection points where growers are dealing directly with processors and exporters. The processors grade, wash, and polish the fruit: grade A is mostly exported, grade B is usually supplied to local markets, and grade C is sold to juice processing companies such as Nestle.
- Farmers growing carrots in central Punjab utilize collection centers, established by lead farmers, to wash and grade their carrots at a small cost before selling to market agents or sending them to wholesale markets. About 50 percent of total carrot production passes through these centers. Farmers receive higher returns when selling better quality carrots.
- Some farmers in northern Punjab procured high quality garlic seed from the National Agriculture Research Center and established Seed Production Groups. The lead farmers provided members with seed and production technologies, and ensured a market price at harvest. This venture is risky, requiring substantial investment. Few farmers were willing to engage in garlic seed production.<sup>57</sup>

## Target Producers

**75. Not all smallholders will be suited to market-driven interventions as a means to increase their incomes.** Many smallholders are risk averse or lack sufficient land and resources to align their production with commercial realities. Linking to higher-return market opportunities is risky and will likely require decisions that disregard some equity concerns in order to be sustainable. Even with thorough selection criteria that effectively target more market-oriented, sufficiently endowed farmers, they will still face difficulties trying to enter higher value markets such as financial support for

necessary production investments (e.g., storage, harvest equipment), complying to novel food quality standards and adopting improved post-harvest practices. Agribusinesses are wary about disrupting their existing supply networks and venturing into new partnerships with inexperienced farmers. They are more confident in working with producers who have demonstrated capacity to produce the commercial quantities of known quality that meet their delivery requirements.

Characteristics that may be considered for identifying target farmers include:

- (i) Land size: 1.2-10 hectares. Farmers with plots of less than 1.2 ha are not economically viable and do not have the necessary resources to invest in their farm to improve productivity and regularly produce marketable surpluses. Farmers with more than 10 ha are likely already integrated with (higher value) markets or have sufficient means to link to such markets.
- (ii) Farmers that have the capacity to regularly produce marketable surpluses at the desired quality and quantity of the target commodities in which they want to engage for value addition.
- (iii) Farmers that are willing and capable of learning and adapting new and improved production practices that would support them to connect to (higher value) markets.<sup>58</sup>

**76. Access to more stable markets and improved technologies will provide the impetus to smallholder producers to expand production and productivity.** With effective targeted technical assistance, they can increase their marketable surpluses and improve their livelihoods.

## Contracting

**77. There have been a few basic attempts at contract farming in Pakistan.** The market survey of citrus exporters and processors around Sargodha found that exporters negotiated pre-harvest 'contracts' with growers. They provided some technical and financial support

<sup>57</sup> Ali, M. (2022).

<sup>58</sup> Ali, M. (2022).



to their growers for better managing their orchards.<sup>59</sup> PepsiCo and potato growers provide the most prevalent example of contract farming in Punjab's agriculture. PepsiCo provides improved potato seed to growers under predetermined quality and price contracts. Each farmer is trained in growing and handling practices to produce high-quality potatoes. PepsiCo field inspectors only select the potatoes that meet their quality standards at harvest, and farmers sell the rejected potatoes in local markets. PepsiCo's strictly enforced quality con-

trol measures have led to the development of a vibrant and prosperous potato industry in Punjab during the last decade that is expanding into other areas.

**78. Engro Foods (now FrieslandCampina Engro Pakistan Limited) is the second largest milk processor in Pakistan and provides an example of a more vertically-coordinated supplier network.** Engro has processing plants in Sukkur (Sindh) and Sahiwal (Punjab). To ensure quality and the timely supply of milk, the company owns and manages more than 1,300 milk collection centers. Engro has trained over 500,000 farmers in improved production practices that meet the company's food quality and animal welfare standards. Incentives to supply to Engro include prompt digital payments once the milk is accepted by the center manager, and technical support provided by the company's veterinarians, nutritionists, artificial insemination (AI) technicians, etc. The company also sells cows of improved breeds from the company's farm to its suppliers. Large dairy farmers who are reliable suppliers, are contracted to Engro. In the case of smaller producers, quality control systems and, at times, peer pressure, help ensure that smallholders provide unadulterated milk to the local collection center. Haleeb Foods Ltd. is also a significant local food and beverage company that operates one of the largest milk collection networks in Pakistan for its two milk processing plants in Punjab. Haleeb also targets larger, more commercialized dairy farmers as contractors to ensure a continuous milk supply to its factories.

## Market Linkage Projects

**79. There have been a number of efforts in Pakistan to promote the commercialization of smallholder farming systems and to assist them in shifting to a more market-based production by strengthening local business development and supporting critical supply chain investments.** These methods have complemented production-based systems to facilitate market access. Examples in the target commodity groups include:

- The **Model Farms Linked with Improved Supply Chains and Value Addition Project**

<sup>59</sup> Sadozi, K. N. (2022).



(2018-2021, CABI, Government of Punjab) which formed producer groups and built capacity on good agricultural practices; developed linkages between the groups and local and international markets; supported HVC production with export-quality standards; organized international and domestic produce exhibitions; and trained middlemen, transporters, etc. on better post-harvest handling practices. Grants were provided to producer groups and individuals for improved infrastructure such as storage, machinery, pack-houses, etc. The independent project evaluators criticized the presence of 'elite capture' whereby a farmer organized a group but kept all the benefits for himself. Between 3,000-5,000 citrus growers were more closely linked to 10 local processors.

- The **Sindh Agricultural Growth Project** (2014-2021, Government of Sindh, World Bank) created producer groups and trained members on improved production and management practices in dairying and crops; built 149 Milk Collection Centers (MCCs) for the groups; trained government AI providers; rehabilitated public veterinary and reproduction units; and established an AI training center. Milk production increased by 28.4 percent; farmers received higher prices by selling milk through their MCC to dairy processors under contract, dairy shops, other processors (confectionery, bakeries) or middlemen. The hub model—stores selling improved inputs, services (feed, fodder, seeds, AI) and credit at the MCCs—was successfully trialed. Some lead farmers received grants for fodder machinery and were required to deliver subsidized services to smallholder farmers.
- The **Punjab Enabling Environment Project** (2014-2021, Chemonics, USAID) partnered with Punjab's government, the private sector, academia, and civil society to create a more conducive business enabling environment to promote private investment in the horticulture, livestock, dairy and food processing subsectors. A matching grants scheme encouraged small and mid-sized agribusinesses to invest in equipment, infrastructure and training focused on the development of olive nurseries, olive oil extraction units and mobile milk pasteurization. The scheme also supported a youth entrepreneurship program. Project results included the creation of more than 16,000 jobs and private investment of over US\$250 million in the targeted agricultural subsectors.
- The **Market and Employment for Peace and Stability Project** (2018-2022, Helvetas, Government of the Netherlands) worked in post-conflict areas of Khyber Pakhtunkhwa to improve productivity in high value commodities: like strawberries, tomatoes and dairy. The project demonstrated new technologies and production practices. It partnered with large companies (Ghazi Brothers, ICI, Reef Agro, Syngenta) to build the capacity of local providers for more efficient service delivery, costing, and productivity through a matching grants scheme. Results: (i) Strawberries: an estimated 47 percent of farmers can now access higher quality inputs and services leading to increases in strawberry-growing area (10-fold), production (35 percent), gross margins (51 percent per acre) and incomes (30 percent); (ii) Dairy: higher use of improved breeds through AI led to 5-13 percent productivity increases; input suppliers increased their sales due to higher demand for quality inputs and services (e.g., vaccinations); and (iii) Tomatoes: due to changed cropping patterns with new varieties and technologies, farmer incomes increased 75 percent, productivity quadrupled (growing off-peak varieties lengthened the sales window), and the number of farmers growing tomatoes increased 10-fold.
- The **Agribusiness Project** (2011-2015, CNFA/ASF, USAID) created Farmer Enterprise Groups aimed at increasing smallholder competitiveness and productivity in the horticulture and livestock subsectors. The project identified potential cluster areas that included producers, processors, market agents, and service providers. Cost-sharing grants targeted value addition, processing and marketing through improvements in farming practices, strengthening producer organizations,

and enhancing linkages between producers, suppliers and processors. The project results included: support to 19,000 enterprises; training for 20,000 beneficiaries; creation of 14,500 jobs; increased sales revenue of US\$41.84 million including exports of US\$34.6 million; and leveraging of an estimated US\$10 million through the grants program.

## Lessons Learned

**80.** A number of **experiences and lessons learned** from the institutions that implemented the above projects in Pakistan were influential in selecting the proposed approaches for linking smallholders to more remunerative markets, and the corresponding recommendations for future market-linking project interventions.

- Market access can be improved through quality improvement and producer groups.** The formation of producer groups to access an identified market that offers an attractive and transparent quality-driven commodity price increased incomes for the members of such producer groups (e.g., milk, strawberries, tomatoes) selling small quantities during their production season. For dairy farmers, this alternative market outlet with more transparent pricing shifted sales away from local milk collectors. The collection points provided economies of scale and enabled direct linkages with larger private buyers that have more exacting quality standards and demand a timely delivery of supplies. Collective action helped smallholders to build marketing awareness, address market information asymmetries, improve their production practices, and utilize equipment to improve the quality of their produce and sale it to more discerning buyers seeking reliable supplies that meet their requirements. However, without a common economic purpose (e.g., ownership of a milk collection center), the producer groups were no longer operational after the project's support ended.
- Facilitation plays a key role.** Project teams actively promoted the development of linkages to higher value market actors by identifying
- potential buyers and facilitating agreements between the producers and such buyers. For larger projects targeting multiple commodities and sectors, the most successful collective marketing interventions were facilitated by business service providers. They initiated activities by studying local supply chains, fostering discussions with industry players, and identifying market opportunities. They organized groups, identified private partners, negotiated agreements, provided information and technical support, and built the capacity of producers and downstream players to exploit the identified market opportunity. Business service providers were sourced from both the private sector and NGOs. They also developed mutually-agreed business proposals for project funding.
- The use of (cost-sharing) grants and equipment purchases** (e.g., threshers, milk chillers, dryers) helped deflect some of the inherent risk in a new business venture for all parties. Projects invested in equipment and skills development for the beneficiaries. Building the capacities of government and non-government service providers (e.g., animal health, food quality standards, finance provision) was an important collaboration in both the public and private domains.
- Build trust early in the partnership.** Project teams need to help develop trust between the various parties: horizontally between producers working together in groups; and vertically between producers and downstream players. Trying to develop new market linkages between parties who have had little or no prior contact is a risky venture when compared to the underlying trust of traditional systems. All parties need to be flexible, and projects can enable the process by building producer capacities to meet the timing, quality and quantity expectations of buyers. The strategic use of grants to the different parties of the partnership helps reduce costs and investment risks. Buyer's investment into the business venture provides confidence to the producers that the buyer is committed to the partnership. For targeting marginalized groups (e.g., women,

youth), the matching requirements for project grants were reduced or removed in order to encourage their involvement in new business ventures.

- **Work within existing market systems.** The existing social capital between producers and traders, often developed over decades, is often difficult to replace and is a reason to strengthen these relationships. Many traders, input suppliers, commission agents, etc. wish to reinforce their existing supplier networks as they recognize that competition and alternative marketing channels may develop (e.g., e-commerce). More progressive intermediaries have the capacity and willingness to learn new skills in order to collaborate with producers to improve marketing outcomes. Technical advisors supported these intermediaries to improve their post-harvest practices, adopt more efficient supply and service methods and find ways to reduce transaction costs. These activities led to many smallholders gaining access to improved services (e.g., seed, fertilizers, supplies) and reduced post-harvest food losses. An assessment of the target commodity markets provided an understanding of the market operatives and helped to identify those more progressive market intermediaries willing to work in improving the existing marketing systems.
- **Alternative credit channels may be necessary.** Producers willing to link to new market outlets usually had sufficient funds to support their production decisions and any related costs involved in the new venture. Projects funded larger capital investments (e.g., threshers, dryers, storage) to help improve the quality of the produce supplied to buyers. But to include more smallholders in the group in a new partnership arrangement, and without credit from the traditional trader-supplied seasonal funding, many smallholders will need alternative credit sources. In most instances, projects worked with microfinance providers to help support smallholders and agribusinesses. Projects also introduced producer groups to banks in an effort to develop lending facilities and products more suited to smallholders' requirements.





# Proposed Approaches

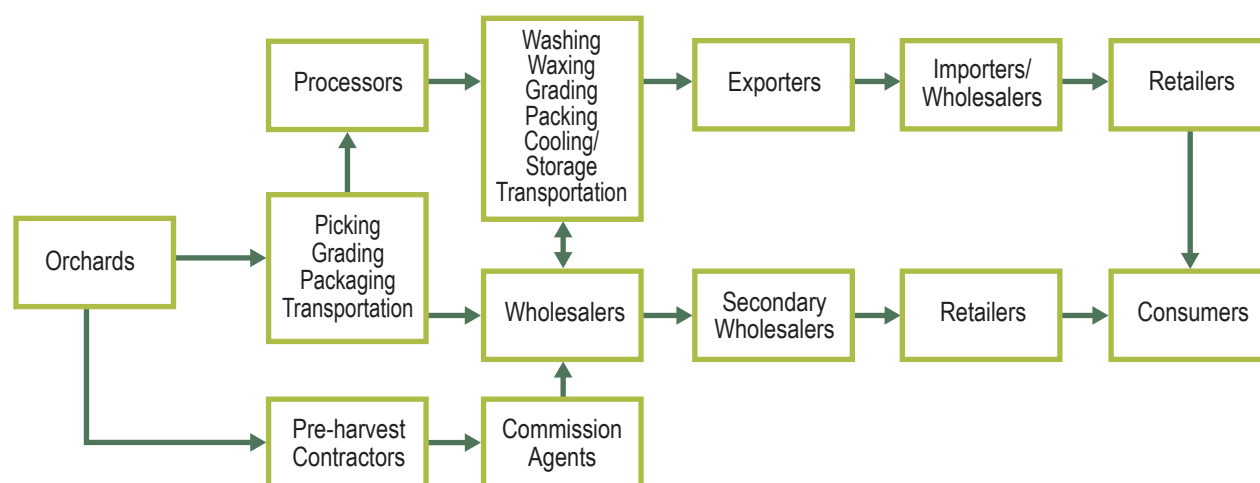
**81. Experiences and approaches demonstrating a successful shifting of smallholders from production- to market-based investments and linking them to more remunerative outlets for their produce are limited.** Interventions to support smallholder commercialization, such as market analyses, contract farming, certification, and strategies to strengthen local business development and value chain investments have been deficient within Pakistan's agriculture sector. The following market linking proposals for smallholders operating in the target commodity subsectors are based on the current production and market contexts, previous project experiences, and recommendations from the background feasibility studies.

## Produce Collection Centers

**82. The aim of the produce collection center approach is to improve producers' economies of scale, promote more competition between buyers, and generate higher returns for smallholders.** Producer organizations and main buyers may set up collection centers close to clusters of growers where

produce can be conveniently aggregated. Produce collection centers would be effective for the target commodities as these need prompt processing once harvested and lack cold chain infrastructure throughout the supply network. These centers of aggregation allow growers to either sell individually (and allow buyers to aggregate the produce) or collectively. The availability of larger volumes of fresh produce, perhaps sorted by quality grades, would attract a wider range of buyers (wholesalers, retailers, processors, etc.) seeking bigger volumes to save on transportation costs.

**83. Collection centers have delivered effective results for smallholders,** for example in: (i) selling fresh milk daily that needs to be chilled on delivery as demonstrated by the Sindh Agricultural Growth Project; (ii) citrus collection points where some growers deal directly with exporters and processors (Figure 9); and (iii) carrot collection centers in central Punjab. This model could be replicated for other perishable commodities (i.e., fish, fruit and vegetables). Collection centers may operate as spot collection platforms, arrangements for farmers to deliver directly to designated buyers, or aggregation

**Figure 9. Citrus marketing chain**

Source: Ghafoor, A., et al. (2017).

points where smaller producers can assemble their produce before grading and transportation. The collection center would function as a key piece of infrastructure that helps shorten supply chains and links producers more closely to buyers. This shortening reduces the amount of handling of produce and thus, the amount of mechanical damage and wastage suffered during marketing.

**84. Collection centers are most effective when other post-harvest handling activities are available to ensure that product quality and quantity meet the buyers' requirements.** The availability of post-harvest facilities such as storage and trading structures prevents food loss and waste and are instrumental in addressing price fluctuations. In the case of the carrot collection centers in Punjab, growers are able to wash and sort their produce before selling to buyers. Ideally, growers selling through collection centers should be able to receive price premiums for their higher quality produce. They can then more readily understand the buyers' quality standards and know what production and post-harvest practices will deliver them the highest returns. Such marketing information is currently unavailable to most smallholders in Pakistan and is important when assisting farmers in developing linkages to more remunerative market outlets.

## Ownership and Management

**85. The ownership and management of the collection center represent a potential barrier to the advancement of this approach among the target commodity subsectors.** Ownership and management impact the efficiency, profitability and sustainability of the center. All parties entering into the partnership arrangement need to be fully aware of their responsibilities and the potential costs and returns from their involvement in the venture. These would need to be clearly stated in a formal agreement between all relevant parties for their respective benefit. Ownership and management options may include:

- (i) **Producer groups could build, own, and manage the collection center.** The availability of such market infrastructure allows the collective marketing of smallholders' produce, with the potential to significantly reduce transaction costs, thereby increasing incomes for smallholder farmers. To sustain the operation, the group has to efficiently manage the center, both financially and technically. Depending on the complexity of the collection center, the producer group may need, at least in the short term, to employ a capable manager to operate a facility with multiple functions (e.g., sorting, cleaning, packaging, cold



storage). For a basic packhouse, a hired manager would likely not be necessary. The group or selected members from the group would need to be trained on the proper operation of the facility, as well as on financial and group management skills.

The advantage of this operational model is the group's improved bargaining position during price negotiations. Usually, producers selling through traditional marketing channels receive lower prices than when selling directly to larger wholesalers or retailers attracted by the economies of scale offered by a collection center. The disadvantage of this ownership model is that the responsibility for managing the center—maintenance costs and accompanying utility infrastructure (e.g., water, electricity)—may become a burden for the group.

- (ii) **The second option is a collection center owned and managed by a company** (processor, wholesaler, etc.) as illustrated by several milk processors' extensive networks of MCCs throughout Sindh and Punjab that deliver produce according to each company's exacting quality standards. Similarly, the collection center could be owned and managed by a lead farmer or group of larger farmers that charge a fee to producers wishing to use the services available at the collection center. This is the model used in the carrot collection centers of Central Punjab. In this management model, smallholders deliver their produce directly to the collection center and they do not need to establish a producer group, even though such a group would help for advocacy purposes during the marketing process. The sustainability of the model depends on the trust between the company and the farmers. The availability of other services, such as seeds, fertilizers, supplemental feeds, medicines, veterinary services, etc. can increase that trust. But the owners of the company have the power to set prices, which weakens the bargaining power of the farmers or their producer group.

- (iii) **A third option is a hybrid ownership and management model between producers and buyers.** This model may take different formats.

For instance, a processing company owns the MCCs and the dairy equipment but transfers the management of the collection centers to the farmers. Another possible scenario is that where the processing company is responsible for the maintenance of the equipment owned by the producer groups, supplies fuel for generators, or pays the utility costs. Regardless of the format, smallholders need to establish a group and sign an agreement describing the ownership and operational arrangements of the partnership, including the sales agreements for each season. This hybrid option weakens the bargaining power of farmers. However, it provides more flexibility to both parties, especially for collection centers located in more remote areas that are far away from the final end user or the company's processing facilities.

**86. This collective marketing approach provides incentives for farmers to increase their productivity and product quality, and for traders to add value by engaging in primary processing and storage, taking advantage of the volumes assembled and the facilities and services provided.** The collection center can be used as a platform for implementing the food quality and safety standards required for access to the buyers' markets. These facilities can be easily integrated into related business development services for smallholders: the dairy hub model was successfully piloted in the Sindh Agricultural Growth Project. Service providers and inputs suppliers have the opportunity to open shops around the collection center to attract business from the stream of producers regularly using the center. The hub becomes a one-stop commercial service platform for producers to access quality inputs, machines, markets, finance, and knowledge. Overall, this collective marketing approach not only relates to improving and guaranteeing quality, but also improving logistics efficiency, reinforcing information exchange and strengthening innovation, i.e., value creation at the farm level and along the entire supply chain.

## Productive Alliances

**87. Productive Alliances have shown to strengthen the linkages between producers, buyers and the public sector within agriculture value chains.**



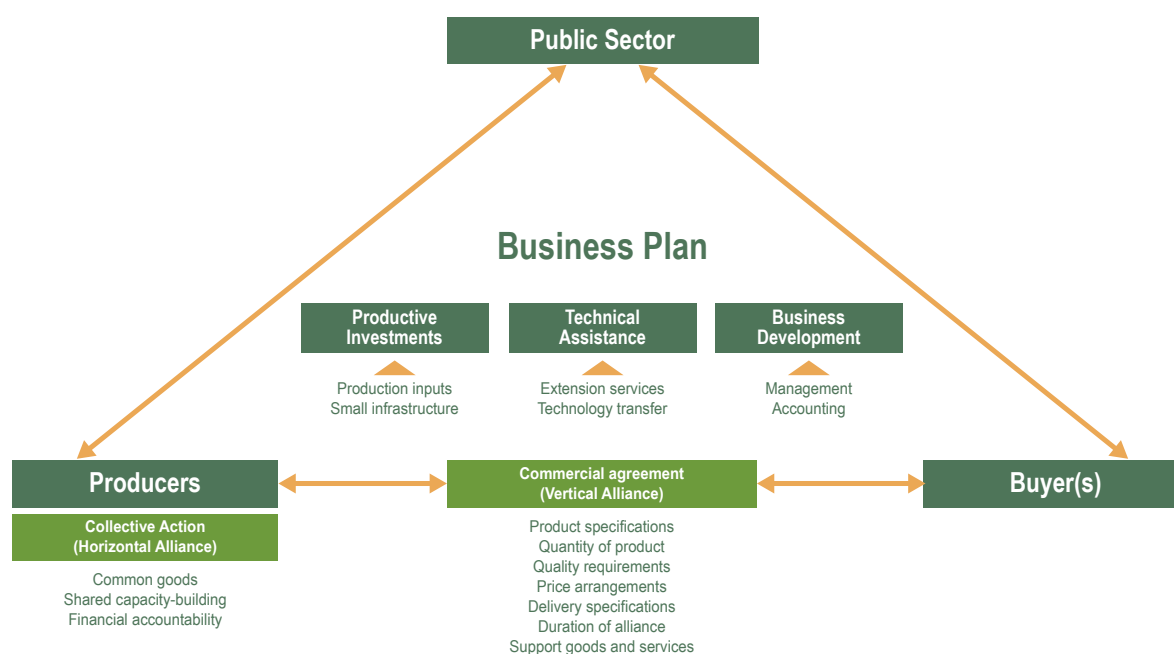
The Productive Alliance approach has been adopted in several World Bank projects across Latin America, Africa and Asia and provides holistic solutions to address market imperfections that inhibit smallholder producers' socioeconomic progress. A Productive Alliance involves three core agents: a group of smallholder producers, one or more buyers, and the public sector. These three agents are connected through a business proposition, or "business plan", which describes the capital and services needs of the producers and proposes improvements that would allow them to upgrade their production capacities and skills to strengthen their linkage with the market, i.e., the buyer(s). The implementation of such a business plan is typically supported through three core inputs and/or activities directed towards the producers' needs: productive investments, technical assistance, and business development. These core inputs are financed through public grants provided by the project, which are matched by the beneficiary producers and, in some cases, also by the buyer(s) (Figure 10).

**88. The aim of the Productive Alliance approach is to stimulate a change in the market system that**

**benefits the target producers** by proactively creating linkages with business partners preferably in higher value sectors (wholesalers, processors, exporters, supermarkets), financial institutions and other intermediary service providers. There are situations where smallholder producers are unable to adjust to the evolving food market system and exploit an available market opportunity in a modern food system. Concurrently, the existing market system rigidly maintains the status quo that limits the potential opportunities for smallholders to form alternative downstream partnerships which could be more beneficial for them. Intentional efforts to close the gap through private sector engagement alone are sometimes not enough. The alliance reduces the number of intermediaries, reduces costs and value erosion. Alternatively, smallholders could be connected to a larger producer or trader with experience and existing longer-term higher value market linkages.

**89. The Productive Alliance changes the buying and selling culture from the occasional and opportunistic sales transactions of individual farmers to transient traders, to a more consistent sales approach that builds relationships between**

Figure 10. Core elements of a Productive Alliance



Source: World Bank Group (2016). Linking Farmers to Markets through Productive Alliances: An Assessment of the World Bank Experience in Latin America.

**registered producers or groups of registered farmers selling to known trading partners.** The market process could be led by a company, an extension agent, a farmer organization or a chain facilitator. Therefore, intentional outreach by project-sponsored service providers to different value chain groups is required through direct facilitation over and above market systems interventions. The type of commercial agreement between buyers and producers would depend on a number of conditions including: the product, the end market consumer, quality standards, the farming system, etc. Most producers in the target commodity subsectors are operating in unorganized informal supply chains. They lack access to affordable credit and suitable extension advice, and are reluctant to invest in risky undertakings without some assurances of decent returns. More modern supply chains are based on contractual-type relationships and specialization amongst buyers and growers. Large agro-processors (e.g., Engro, citrus exporters, PepsiCo) have demonstrated what is possible in Pakistan with more vertically-coordinated supply chains. Producers operating under agreements with buyers offer opportunities to overcome many of the current market dysfunctions, for example, the timely supply of livestock to meat processors so that they can meet their export orders.<sup>60</sup>

**90. High value markets are shaping value chains through the introduction of private standards and food quality requirements.** Supermarkets, food specialty shops, and hotels are spreading from large cities to smaller towns in Pakistan, and they are increasingly sourcing their fresh produce needs via contractual-type agreements with larger producers or wholesale traders. As their share of retail in Pakistan increases, they will demand larger volumes of high-quality fresh produce. Among these requirements, preferred producers and traders are working with standards similar to Good Agricultural Practices (GAP) and Good Handling Practices (GHP). The Productive Alliance approach seeks to incorporate more smallholder producers into these evolving marketing systems.

**91. Rather than trying to deliver 'solutions,' the project partner can help facilitate changes that improve market operations for the smallholder**

**producer.** Larger producers and traders with supply agreements to higher value markets may already work with groups of smaller producers and trade in traditional markets in order to fulfill their orders. They deliver directly to buyers in urban areas. But such mutually beneficial relationships are not widespread in Pakistan; collective actions are often undermined by a lack of trust and unproductive rivalry, dishonest dealings and lack of compliance with the terms of the agreements from both sides. Development partners have actively worked to support smallholder aggregation through commercial agents as a market linking intervention (e.g., Sindh Agricultural Growth Project).

**92. Within a Productive Alliance, the public partner would function as the facilitator of the partnership by creating the conditions necessary for the development and exploitation of the identified market opportunity and by focusing support on the weak links in the supply chain.** The feasibility studies across all the target subsectors identified, from the buyers' perspective, the current limitations for smallholders to sustainably link to higher value markets. Citrus and mango exporters, fish traders, meat processors, etc. complained about the lack of timely supply and quality of delivered produce which meant they could not obtain their desired volumes, or that they needed to seek out alternative, more expensive supply channels (e.g., imported milk powder). The number of intermediaries involved in existing food supply chains has created disjointed chains with little market information transmitted back to producers.

**93. Private sector players recognize that market opportunities and potential for growth depend on the consistent supply of raw materials that meet specific quality standards.** However, these actors may lack the necessary technical skills, local knowledge and trust-based networks to organize suppliers, engage them in production agreements and connect them to support services such as finance. Therefore, projects would need to employ specialist intermediaries, either non-governmental organizations or commercial companies experienced in linking smallholders to markets, to help bridge the gap between producers and companies

60 Lohano, H. (2022).

to address some of these issues, while promoting inclusiveness agendas. They invest in ways that enable specific types of farmers and communities of farmers to access markets that match their capacities, production, investment and risk profiles. It is then that training, technical support and facilitation can be identified and delivered directly to the target producers. This type of investment promotes the inclusiveness of smallholder farmers, stimulates broad-based industry development and encourages an equitable sharing of the value created along the chain. In these cases, investment by the private sector is usually channeled to farmers through contract farming-type agreements, which could include inputs, low-cost loans and technical support.

Potential interventions by the agribusiness partner and/or business facilitator could include:

- developing business proposals including financial and market analyses;
- providing funding or in-kind resources as agreed;
- leading the implementation of partnership activities and delivering results;
- providing professional management;
- securing markets and ensuring that producers supply raw materials through supply agreements;
- providing technical assistance and business management training;
- disseminating inputs and technology;
- linking farmers to business services such as financing and third-party certification;
- supporting the monitoring of partnership activities.

Producer group roles may involve:

- acting as a central intermediary among farmers, private partners and local governments;
- helping farmers to understand and negotiate supply agreements;
- coordinating raw material supply for delivery to private partners;
- supporting members in the implementation of quality standards;

- providing business administrative services (e.g., record-keeping) for farmers, private partners, banks and other government and regulatory bodies.

**94. The main barrier to these more formal, vertically-integrated supply transactions in the targeted agricultural subsectors is the lack of trust between all groups, both horizontally and vertically within the supply chains.**

While farmers may be aware of the potential benefits of collective action under such Productive Alliance arrangements, this understanding may not be enough to overcome the suspicions about working together. The important factor is to incentivize farmers with identified market opportunities within the sector and support their efforts to meet the quality and volume standards required to exploit such opportunities. Many smallholder producers already know where more remunerative markets are located, but lack the impetus, skills and resources to collaboratively work together to shorten their supply chain and exploit these opportunities (e.g., fish farmers in southern Sindh consider that their higher value markets are the increasing number of middle-class consumers in large cities such as Karachi and Lahore, as well as crab exports to China).<sup>61</sup>

**95. To help overcome suspicions amongst producers, the group needs to have clear rules and norms of association and enforcement mechanisms that ensure an even distribution of the benefits among all members.** This will create incentive systems for regulating and shaping the behavior and expectations of individual members and provide assurance to other market actors. The rules would need to define the roles, rights, obligations and entitlements of individual members and the group itself and, as such, would contribute to build trust and solidarity amongst members.

**96. This market linkage approach requires active input from downstream players from the onset of the sub-project and agreement on the missing key components within the chain that would provide benefits for all players.** The vertical linkages involved with higher value markets are risky for all the alliance partners, as they require transactions between entities

<sup>61</sup> Kanji, I. A. (2022).

who have had little or no prior contact. The lack of social obligations that inherent to the trust-based foundations of traditional systems, often means neither party has a strong social incentive to honor an agreement despite compelling mutual economic benefits. For producers with limited income-earning opportunities and usually in need of cash, side-selling makes sense despite damaging the possibility a long-term arrangement with a reliable buyer. For producers it creates mistrust and often leads to companies losing interest in developing sustainable relationships.

**97. To help build trust between the alliance partners, projects can facilitate meetings between buyers and producers, support companies to provide prompt payments to their suppliers, and strengthen the partners' commitment to the business** (e.g., assist companies to invest in key infrastructure such as milk collection centers, warehouses, cool storage units, etc.). Project teams need to devote considerable effort to developing trust between the various parties. Higher value buyers (e.g., supermarkets, exporters) will not abruptly disrupt their existing supply chains and switch to a smallholder group supplier. The linking process would likely be an iterative, gradual progression of building a viable relationship between all parties in the alliance before the realization of the full benefits of such alliance. There could be mistakes along the way, and therefore, patience and tolerance will be required among all partners. The business development facilitators hired by the project will prove to be a critical element during the process.

**98. If projects pursue the Productive Alliance option as a means to link farmers to high value markets, then the agreements should allow for renegotiation if prices or costs change excessively** and perhaps, allow farmers to sell a percentage of their produce on the open market. PepsiCo's 'contractual arrangement' with potato growers in Punjab demonstrates a successful approach whereby farmers are able to sell in local markets the portion of their produce that does not meet PepsiCo's quality standards. Prices in local markets are usually higher; however, producers need to deal with more intermediaries which reduces their returns and delays their payments for several weeks or even months.

**99. The key entry points for projects would involve building capacities and support** in the following areas:

- **Information management** - farmers need to improve their access to, and management of, information in order to improve their position in the chain; keep records of the labor and inputs used in order to improve their understanding of costs and build their ability to negotiate prices.
- **Traceability** - record-keeping to guarantee the source of the product and of the inputs used.
- **Financial support** - targeted at key quality inputs, infrastructure, and equipment.
- **Market information** - knowledge of prices and trends so that farmers can better negotiate with potential buyers.
- **Quality management** - make sure that the product and production process satisfy market demands. This increases the attractiveness of farmers as business partners and thus, their negotiating position.
- **Grading** of produce into known quality grades that result in different prices; implementation of quality control systems and certification schemes as demanded by different markets.
- **Marketing management** to ensure products are produced and packaged to meet customer preferences.
- **Innovation management** - farmers share their experiences, identify best practices and start experimenting to find what works best for themselves. Study trips to large-scale farmers, research institutes, model farms, etc. would assist the uptake of better practices.
- **Developing cooperation** - recognition that chain actors depend on each other. Take farmers and other chain actors on excursions to downstream companies to expose them to the reality of other parts of the supply chain.
- **Identifying expectations** - chain actors decide on the goals they wish to obtain through collective actions (e.g., improve quality, develop a new product) or identify problems they want to tackle (e.g., wastage during transportation). They draft a business proposal together that details the actions and responsibilities of each partner, and the transaction conditions (price, quality standards, payment procedures, etc.).



**100. Partnering with companies in a Productive Alliance can be an effective way of creating market linkages.** This approach would support the development of business models with policies and practices that meet the needs of smallholders while also complementing investments to upgrade their skills. To be successful, it is necessary to ensure that companies have the patience needed to invest in the process and that farmers have the commitment and ability to meet the requirements.

## Improving Efficiencies in Existing Systems

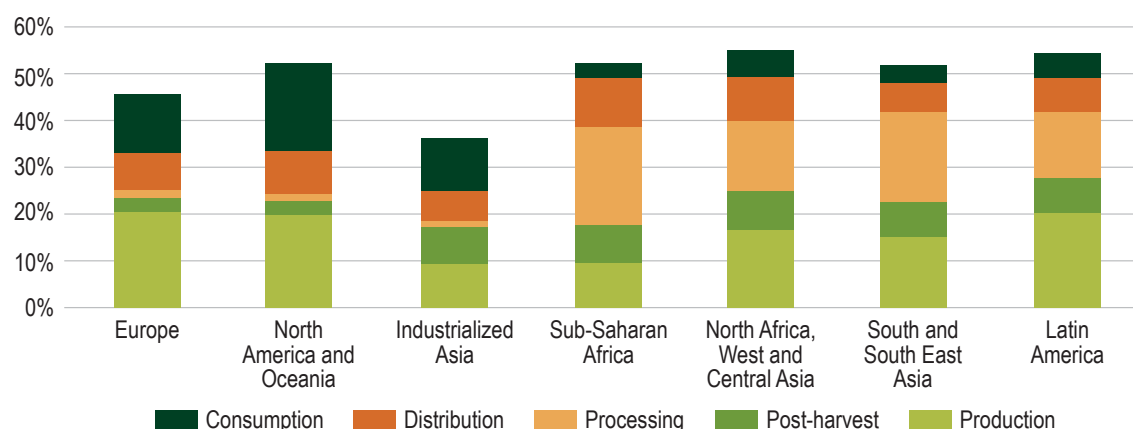
**101. More formal and sophisticated forms of marketing should be promoted where they deliver benefits, but such interventions may not always be appropriate for smallholders in the targeted areas and may instead confer benefits to better endowed farmers to the detriment of other producers.** Despite the changing nature of food marketing, informal channels still handle the bulk of produce in Pakistan. As markets grow and differentiate, with varying demands from intermediaries and end consumers, some informal channels continue to prosper. Larger growers are usually more focused on higher end markets, and smallholders predominantly sell into local markets where quality standards are mostly absent.

Generally, smallholders do not have the resources or skills to target higher value markets. They are mainly selling into existing local supply chains through spot markets (either directly or through small-scale traders). Therefore, improving efficiencies within the existing supply chains of the target commodities could add significant value and improve returns to the producers and other chain players. For example, due to managerial and technical limitations, such as a lack of proper storage facilities, cold chains, proper food handling practices, infrastructure, packaging, or efficient marketing systems, an estimated 20 to 45 percent of food and resources are wasted in Pakistan's food supply chains, in line with the region's average (Figure 11).<sup>62</sup>

**102. Tackling supply chain weaknesses, such as food losses and waste (both on-farm and downstream) in an efficient, sustainable and integrated way provides an opportunity to reduce costs and value erosion in a relatively cost-effective way that can potentially increase incomes for all chain players.** Yet, the transaction costs and coordination efforts required to organize many smallholder farmers are discouraging buyers from directly sourcing their needs from smallholders. Private partners can play an important and unique role in improving distribution efficiencies by optimizing food processing procedures, streamlining supply chains, linking farmers to markets, etc.

<sup>62</sup> Ghafoor, A., et al. (2017).



**Figure 11. Percentage of the initial production of fruit and vegetables lost or wasted**

Source: Nutfruit, July 2017.

**103. Producers usually sell their products to traders, small or large, at their farm gate**, which involves bargaining over prices and/or the division of labor related to the harvesting of the commodity on the producer's land. Thus, traders play a pivotal role in ensuring compliance and product differentiation. Small traders usually deliver the product to larger traders or wholesale markets. Farmers who own a truck can bypass these small traders and take their produce directly to wholesale markets.

**104. Chain integrators (e.g., commission agents, middlemen, exporters, processors) with relevant expertise have been able to play an important role in strengthening the capabilities of supply networks.** In some instances, they have introduced new standards and technologies in the sector that have supported smallholder farmers in improving their production's quality and quantity (e.g., citrus, mango subsectors). These intermediaries often have a strong focus on service provision but with a commercial attitude. Their focus on increasing the competitiveness of the chain and their market orientation can make them effective and efficient facilitators. Intermediaries hired by a project can be used to reduce transaction costs by introducing production and quality standards: for buyers they guarantee quality inputs; for producers they increase sales opportunities that could earn a premium

### BOX 3.

Smallholder mango growers in Pakistan are required by middlemen to pack 12–14 kg of mangoes into wooden boxes designed to hold 10 kg of fruit. Over-filling boxes until their sides and top are bulging means that boxes stacked on top of each other during transport, sometimes 18 boxes high, create significant damage to fruit. Unbeknown to most farmers, up to 25 percent of fruit can be lost through this practice; losses that are factored into the prices paid to farmers.<sup>64</sup>

price. Intermediaries can also reduce transaction costs with better logistics, handling of agricultural produce and interactions through informal channels such as with middlemen.

**105. Project teams may need to initially focus their resources on the more progressive and entrepreneurial farmers to lead changes in existing marketing systems.** Risk perceptions among smallholders, self-efficacy and social networks, affect the motivations and learning processes regarding changes to their production and marketing operations. Highly motivated smallholders with confidence in their abilities

63 Collins, R., Dent, B. and Bonney, L. (2016). *A Guide to Value Chain Analysis and Development for Overseas Development Assistance Projects*. ACIAR.



might be more inclined to participate in altered systems and work with project partners to try new production and marketing techniques.

**106. The major barrier to improving the existing marketing system would likely be the strong vested interests among the various intermediaries**

(middlemen, traders, commission agents, wholesalers, etc.) in maintaining the status quo. Market information on prices, as well as grades and standards from produce markets, are not issued and thus, producers can only negotiate prices based on a visual assessment of the quality of the goods they are selling. A lack of recognized and accepted yield and quality standards means producers cannot respond to changing market conditions. Traders are advantaged by this system as they can more easily estimate the potential dressing percentages, harvest returns or price gains in their markets. Traders are well connected to each other through mobile telephone networks and can readily check wholesale prices in different markets throughout the country.

**107. There are multiple potential entry points where a project could improve the existing marketing system of the target commodities,** help alleviate pressure on smallholders and generate trust between the various actors within the supply chains. Some project entry points include:

**BOX 4.**

In the Market and Employment for Peace and Stability Project in Khyber Pakhtunkhwa, the project team worked with more progressive commission agents in local HVC markets to develop support packages for participating farmers. These commission agents recognized the threat to their business from increasing competition in key fresh commodity supply chains and they wanted to strengthen their existing supplier networks through the provision of improved services and support for input provisions.<sup>65</sup>

- Assistance with **product pricing** when buyers remunerate smallholders. Options may include, on one hand, a fixed pricing mechanism with a specific *ex ante* minimum price agreed between the buyer and smallholders. This option gives certainty to smallholders against price risks but can be disadvantageous if the fixed price is lower than the prices offered in spot markets. On the other hand, variable pricing is based on product quality or yield/product quantity and is an incentive-based pricing regime to produce high-quality products. Also, it must be noted that governments fixing retail prices for some commodities (e.g., meat) disincentivizes investment, reduces competition, and hinders the progression toward more modern food supply systems.
- The **form of relationship** between buyers and smallholders affects the allocation of risks, the ability of farmers to switch from one buyer to another and their decisions to invest in the necessary assets to maintain production of (higher quality) outputs. Spot relationships are flexible, based on transaction-to-transaction between smallholders and buyers. Long-term, informal relationships between producers and buyers are the most prevalent in Pakistan. Trust is essential in this type of relationship since the absence of a formal controlling mechanism might encourage opportunistic behavior by both actors. Long-term, formal relationships between producers and buyers, more common in modern, food supply chains, are codified in written contracts, complete with quality monitoring measures and penalties for contravening contract terms.
- The **timing of payments** could be after harvest, and similar to the payment conditions in traditional spot markets. Delayed payments after harvest mean that farmers receive payments at specified dates after the delivery of the goods. Partial payments before harvest are another option, meaning smallholders are paid a certain percentage of their total payment upfront and receive the remainder upon delivery of the goods.

64 Based on discussions with Helvetas Country Manager and Project Team Leader, March 23, 2022.

- The **quality of the products** could be fixed at a certain quality standard. In this case, producers incur more risk because meeting a fixed standard is costly and buyers will reject products that fall below such standard, and then are likely to be sold for lower prices. Variable quality standards are more flexible, and buyers pay an appropriate price for different quality levels. But this option also exposes smallholders to risks, e.g., vague quality criteria or receiving low prices for high-quality products. Proper incentives (e.g., payment scales) based on known quality standards are important in linking farmers to markets, so that all buyers and sellers know the quality control procedures before they become involved in an alliance. This implies that effective quality control systems are developed, while providing information and capacity building to all players to meet the requirements.
- The **sales location** could be at the farm gate, farmers delivering their products to nearby markets, or farmers delivering to a buyer collection center. Farm gate sales shift all transportation-related risks and costs to the buyers while with the other options, the farmers incur all risks and costs.
- **Production-related decisions** are a key entry point and will mostly determine the timing of delivery, quality standards, and returns to smallholders. Projects and government partners should develop GAP- and GHP-based industry standards, with smallholders and downstream players trained to match their produce and operations to these standards. Also, timing the seasonality of production to get the highest returns within the existing markets (e.g., off-season production in green houses and tunnels; parturition and fodder reserves to match dairy's lean season).
- Currently, most smallholders sell their **produce** immediately after harvest and therefore do not incur post-harvest costs. Alternatively, smallholders may clean and sort their products before selling which raises the probability of receiving higher prices but also increases their post-harvest costs (these are time-intensive, labor-demanding activities). The option to store products to avoid selling off-peak could be attractive but requires the purchase of costly storage space and processing equipment.
- Poor **access to inputs** is a constraint to smallholders' participation in markets. Buyers may supply inputs in order to guarantee the quality or yields, but usually producers purchase inputs from local suppliers. This can expose farmers to low-quality inputs or to predatory suppliers and service providers. Project teams should work directly with input suppliers (fertilizers, seeds, fingerlings, nurseries, veterinary services, etc.) to improve service provision to smallholders in the project's areas.<sup>65</sup>
- **Familiarity** between smallholders and buyers captures the social dynamics such as trust, social networks, reputation, and loyalty that are inherent in traditional markets and one of their main strengths. Market actors deploy these concepts as a response to information asymmetry (e.g., smallholders learn from their neighbors' experiences to help alleviate their entry costs and risks to a new market or trader). Smallholders may personally know the buyer from previous business transactions; they could know the buyer through their shared social networks; or the buyer may be a stranger (e.g., a supermarket that is expanding its business and seeking suppliers in a new location; transactions with strangers in traditional markets). Project teams can help strengthen the identified relationships in the targeted areas and work to resolve quality issues from both the producer and buyer perspectives to strengthen these commercial relationships.
- **Investment costs** directly determine the extent to which smallholders are willing to invest in the assets necessary to participate in new marketing systems. Projects can help offset these investment costs and risks through targeted financial

<sup>65</sup> This was a successful approach to strengthening market linkages for smallholders in the Market and Employment for Peace and Stability Project (see above).

support. These investments may be minimal, such as those in new farming equipment or irrigation facilities; or the market could require significant investments in assets such as storage facilities, transportation, and processing equipment that are commonly required in higher value markets.

**108. Although there are significant opportunities to improve productivity, expand the industry, and reduce wastage, the aquaculture subsector in Sindh has been largely neglected by governments and development partners.** Industry groups consider that the lack of interaction with governments, particularly to upgrade the existing infrastructure, has hindered growth

in the marine capture and inland fishery industries. Other possible entry points into the industry include:

- Financial support to farmers to purchase higher quality seed and feed.
- Training fishermen and local vendors on the proper handling and storage of fish.
- Improved infrastructure such as cold storage containers and modern handling facilities at ports.
- Better coordination among different fishery control departments at the federal, provincial and local government levels in Sindh.
- Proper registration and monitoring of fishermen, boats and their activities.
- Provision of short-term credit to processing companies to counter late payments from buyers.<sup>66</sup>

**Table 3. Summary of responsibilities and activities for each group of stakeholders in each proposed approach**

	Producer/group	Private sector	Public partner/project
Collection Center	<ul style="list-style-type: none"> <li>• Full or partial ownership</li> <li>• Develop the business proposal</li> <li>• Allocation or purchase of land</li> <li>• Agree on the amounts of products to be supplied with known quality standards (contracts?)</li> <li>• Transportation of fresh produce to the centers</li> <li>• Wash, grade, package produce</li> <li>• Utility costs or usage fees</li> <li>• Repairs and maintenance</li> <li>• Annual reporting and compliance with relevant regulatory authorities</li> <li>• Organize regular meetings of all stakeholders (including government partners)</li> </ul>	<ul style="list-style-type: none"> <li>• Full or partial ownership</li> <li>• Allocation or purchase of land</li> <li>• Develop the business proposal</li> <li>• Off-take agreements (contracts?)</li> <li>• Notify the required product quality standards</li> <li>• Develop industry standards based on Good Agricultural Practices and Good Handling Practices with partners</li> <li>• Provision of packing materials (boxes, crates, etc.)</li> <li>• Provision of credit, inputs, TA, market information</li> <li>• Transportation to own facilities</li> <li>• Repairs and maintenance</li> <li>• Annual reporting and compliance with the relevant regulatory authorities</li> <li>• Hub model: provision of inputs (e.g. fodder, seed, fertilizer, ice) and services (e.g. veterinary, AI, reaping, storage)</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct or commission market assessments (local, regional, national, export)</li> <li>• Identify market opportunities, buyers, and producers</li> <li>• Develop the business proposal</li> <li>• Allocation of land (government)</li> <li>• Facilitate partnership development and supply agreements</li> <li>• Develop industry standards based on Good Agricultural Practices and Good Handling Practices with partners</li> <li>• Financial support for: <ul style="list-style-type: none"> <li>• Business proposal development</li> <li>• Construction</li> <li>• Inputs, technical support</li> <li>• Equipment and tools</li> <li>• Mentoring of producer group members and managers</li> </ul> </li> <li>• Coordination between buyers and sellers</li> <li>• Publicize the centers and services provided to buyers and producers</li> <li>• Assist licensing and reporting to the relevant regulatory authorities</li> <li>• Perform regular reviews to improve operations</li> </ul>

66 Lohano, H. (2022).

**Table 3. Summary of responsibilities and activities for each group of stakeholders in each proposed approach**

	Producer/group	Private sector	Public partner/project
Productive Alliance	<ul style="list-style-type: none"> <li>• Act as central intermediary among farmers, private and public partners</li> <li>• Assist farmers to understand and negotiate supply agreements</li> <li>• Coordinate produce supply for delivery to private partners</li> <li>• Support members to produce to the required quality standards</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> <li>• Assist implementation of better production and post-harvest handling activities</li> <li>• Provide business administrative services (e.g. record-keeping) for farmers, private partners, banks and other government and regulatory bodies</li> <li>• Support the monitoring of the alliance activities and results</li> </ul>	<ul style="list-style-type: none"> <li>• Co-finance technical assistance and on-farm processing infrastructure as agreed</li> <li>• Assist the development of the business proposal</li> <li>• Notify the required quality standards</li> <li>• Lead the implementation of partnership activities</li> <li>• Provide quality standards and train/mentor producers on achieving higher levels</li> <li>• Secure markets for the end products and procuring raw materials from farmers through supply agreements or contracts</li> <li>• Provide technical assistance and business management training to farmers/groups, including on quality assurance and due diligence procedures</li> <li>• Disseminate inputs and technologies</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> <li>• Link farmers to required business development services (e.g. financing, certification bodies)</li> <li>• Support the monitoring of partnership activities</li> <li>• Provide after-sales technical support services to improve producers' deliveries</li> <li>• Assist the implementation of better production and post-harvest handling activities</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct or commission market assessments (local, regional, national, export)</li> <li>• Identify market opportunities, alliance buyers, producers, service providers, etc. and provide incentives for private partners to collaborate</li> <li>• Coordinate and facilitate negotiations and final supply agreements (contracts)</li> <li>• Grants for the provision of technical services, business proposition, and co-financing of infrastructure</li> <li>• Facilitate the formation of producer groups</li> <li>• Provide technical and managerial assistance: promote new crops or improved varieties for production, provide production training ranging from basic agronomic skills to improved practices in preparation for certification</li> <li>• Capacity building of private partners including business development service providers</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> <li>• Supervise the partnerships between producer groups and companies</li> <li>• Facilitate an improved business enabling environment (e.g. contract farming legalities) including regulatory frameworks</li> <li>• Ensure regulatory compliance among alliance partners</li> <li>• Coordinate multi-stakeholder meetings and consultations</li> <li>• Project management and timely flow of funds</li> <li>• Monitoring and evaluation of key partnership indicators, including farm gate prices</li> </ul>

**Table 3. Summary of responsibilities and activities for each group of stakeholders in each proposed approach**

	Producer/group	Private sector	Public partner/project
Existing marketing channels	<ul style="list-style-type: none"> <li>• Act as the central intermediary between farmers, private and public partners</li> <li>• Assist farmers to understand and negotiate supply agreements</li> <li>• Coordinate produce supply for delivery to private partners</li> <li>• Support members to implement quality standards and related production decisions</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> <li>• Assist producers to use better production and post-harvest handling practices</li> <li>• Provide business administrative services (e.g. record-keeping) for farmers, private partners, banks and other government and regulatory bodies</li> <li>• Support the monitoring of activities and results</li> </ul>	<ul style="list-style-type: none"> <li>• Provide improved storage, handling and management technology and methods</li> <li>• Provide improved inspection, quality control, sorting and grading according to quality</li> <li>• Negotiate supply agreements</li> <li>• Provide the necessary packing materials, labor, technical support, crates, etc. to producers</li> <li>• Notify quality standards and related pricing levels (as required) and include them in the supply agreements</li> <li>• Provide technical assistance and business management training for farmers/ groups, including on quality assurance and due diligence procedures</li> <li>• Disseminate inputs and technologies</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> </ul>	<ul style="list-style-type: none"> <li>• Identify progressive food market chain intermediaries (e.g., middlemen, commission agents, wholesalers) willing to work with development partners to improve efficiencies and incomes for all groups along the supply chains</li> <li>• Coordinate and facilitate negotiations and final supply agreements (contracts)</li> <li>• Grants for the provision of technical services, business proposition, and co-financing of infrastructure</li> <li>• Facilitate the formation of producer groups</li> <li>• Provide technical and managerial assistance: promote new or improved varieties for production, provide production training for improved production and post-harvest handling practices</li> <li>• Capacity building of private partners including training on business development for service providers</li> <li>• Assist the development of industry standards based on Good Agricultural Practices and Good Handling Practices</li> <li>• Supervise the partnerships between producer groups and companies</li> <li>• Ensure regulatory compliance among beneficiary partners</li> <li>• Coordinate multi-stakeholder meetings and consultations</li> <li>• Project management and timely flow of funds</li> <li>• Monitoring and evaluation of key partnership indicators, including farm gate prices</li> </ul>



# Recommendations

**109.** The lessons that emerge from the background feasibility studies for each province and targeted commodity indicate **the following actionable practices for either linking smallholder producers to higher value markets or improving the existing marketing systems.**

**1. Identify market opportunities.** This is a fundamental first step that should guide subsequent project interventions to connect small producers with processors, exporters and retail chains. All the proposed marketing approaches require that support agencies undertake a series of studies to understand key issues such as market demand, local production conditions, the business environment, the interests of farmers and traders, and the farmers' ability to access business support services. Analysts should identify market opportunities in a few tangible commodities of high comparative advantage for smallholders, and then tackle the marketing problems associated with delivering the desired produce. The potential for collective action to aggregate standardized and high-quality products

to supply the identified markets makes it mutually beneficial for the private sector and producers to establish strategic partnerships.

**A realistic assessment of potential market opportunities must start with looking at farmers' priorities, resources (skills, land, finance) and attitudes regarding change and cooperation.** To avoid investigating unsuitable opportunities, it is important to start by listing farmers' strengths and limitations, and then deciding which market opportunities should be considered in more detail for potential support. Farmers should consider which market options and trading partners offer them better returns now, and in the future, and would be best suited to their strengths and limitations

**Review secondary sources,** including reports on consumer trends and opportunities for import substitution. Narrow down the opportunities by:

- Talking to industry experts and NGOs who have direct experience in supplying and selling the



target products, such as: supermarkets, hotel operators, processing companies and kitchen managers at schools, hospitals, or the military.

- Discussing opportunities with entrepreneurial traders and wholesalers, i.e., those with a positive attitude toward collaborating with farmers to supply new markets, rather than those who prefer to protect the current situation and focus on high volumes at low prices.

**2. Define exclusive benefits to members.** The main incentive for collective action originates from the economic benefits that cooperation will generate for value chain players. If costs are too high or similar benefits can be accessed from other providers at comparable costs, the incentive for cooperation will be low. The key to success lies in the ability to provide competitive, continued, valued and/or income-generating services to participants.

**Producers often favor collaborating with their neighbors (e.g., fish farmers in Sindh's coastal belt)<sup>67</sup> as this may help disperse individual risk when trying to exploit a new economic opportunity.** A key challenge is to facilitate communication and collaboration among potential group members. Transaction costs stemming from collective action (e.g., the costs of identifying relevant participants, negotiating agreements, etc.) can hinder such action, especially if these costs occur at an early stage. In order to make collective action work, members' benefits from collective action need to cover the costs they might incur as a result of the action. It is important to study how to reduce the costs associated with collective action. Certain skeptical attitudes (e.g., individualism, inertia, awareness) can be barriers to collective action. It is important to raise awareness of the importance of such action and provide solid evidence demonstrating the potential value of collective action to producers. Uncertainty related to the policy environment can also negatively affect farmers' willingness to take part in collective action. It creates apprehension amongst farmers as to the future direction of government support and choice of policy instruments.

**3. Target external financial and technical support** to help small-scale producers and agribusinesses access financial, managerial and business services. This support needs to promote private sector investment in the value chain, and not try to undermine such investments. The role of business development facilitators is critical for establishing viable market linkages within the identified value chains with clear business plans.

**Technical assistance should be provided to help smallholders meet quality standards, efficient agronomic techniques, understand markets, develop business proposals, etc.** Depending on the complexity of the proposed partnership, the service provider could be an individual or a larger company. A key determining factor of the type of service provider needed to assist producers to connect with buyers are the proposed project interventions to help form these linkages. The project could:

- actively match buyers and producers into alliances in the identified markets;
- advertise and market the project assistance scheme (e.g., matching grants) throughout major agricultural areas in Pakistan and assess the level of response to calls for expressions of interest from buyers and producers; or
- a combination of both approaches.

**There are many companies, consultants, NGOs, academics, and public entities in Pakistan capable of providing technical and business support for collective marketing approaches** based on their experience with previous market-linking projects. These include private organizations, semi-autonomous and government institutions such as:

- Star Farms, the Pakistan Microfinance Investment Company, the Pakistan Agricultural Coalition, the Agribusiness Support Fund, the National Rural Support Program, the Rural Development Foundation of Pakistan, the Sindh Enterprise Development Fund, the Management and Development Foundation, and the Pakistan

<sup>67</sup> Kanji, I. A. (2022).

Poverty Alleviation Fund, all of which have experience in dealing with small-scale growers and businesses in previous programs and in providing technical support to target groups.

- Larger institutions such as PwC, Ernst and Young, and KPMG, have extensive business development capacities including the assessment of a project's financial viability, and experience in issues related to the environmental, social and governance aspects of investments.
- Local firms such as seed and input dealers can assist farmers to enhance their crop yields by using improved seed varieties and other improved production inputs. Agribusinesses such as Engro Fertilizers and other large input companies can assist stakeholders develop their business proposals.
- Provincial Agriculture Extension departments, the Pakistan Agriculture Research Council, and other public sector organizations could play a role.
- Academics from universities such as the Lahore University of Management Sciences or Sukkar IBA University could be suitable; the University of Agriculture, Peshawar and the University of Agriculture, Faisalabad both have agribusiness departments.
- NGOs, such as CNFA, the Aga Khan Foundation, the Pakistan Rural Support Program, the Sindh Rural Support Organization, and Helvetas have suitable local experience and could be employed to provide technical assistance.

**Business proposals should clearly state the required levels of technical and business support over a proposed period of time.** The project team would need to critically assess these requirements and may need to augment the proposed inputs. For provision of equipment, machinery, infrastructure, etc., project teams would need to manage a competitive procurement process and pay directly to the successful tenderers. Alternatively, the project could shortlist firms for the supply of goods. Contracted companies should include training support to the alliance stakeholders for operating and maintaining the equipment.

**If projects disrupt existing sources of credit, then alternatives need to be identified by project**

**partners and implemented in order to provide long-term, sustainable funds to the smallholders.**

Limited access to affordable finance is a major problem for smallholders that affects their ability to exploit market-oriented production opportunities and locks them into the existing marketing systems. In traditional systems, traders may advance credit to farmers provided the grower repays in cash or kind after harvest. Access to finance is particularly significant at the initial stage of an activity because that is usually the time when the higher transaction and investment costs for exploiting a new market opportunity occur. Projects could assist smallholders in linking them to financial institutions, including microfinance institutions. But smallholders are considered a high risk by the formal financial sector due to their lack of suitable collateral, which prevents most of them from gaining access to the necessary credit.

Access to credit is normally linked to farm size, as the land title is the main collateral required by financial institutions operating in the agriculture sector. Most banks also do not have experienced loan officers able to assess the profitability or capacities of small farmers' enterprises, or the agriculture sector in general. There is a lack of understanding between producers and financial institutions about each other's requirements. **Thus, even if smallholders can access the formal financial sector, most available lending products are not suitable for their investment needs.**

Options for providing credit to smallholders and agribusinesses include:

- **Channeling funds through financial institutions** such as the Pakistan Credit Guarantee Company or the Pakistan Microfinance Investment Company that were established with donor assistance for the specific purpose of providing affordable credit to smaller agribusinesses, including producers and investors. Funding from market linkage projects could be provided for credit guarantee programs and/or funding to microfinance institutions for on-lending to target beneficiaries. These umbrella companies share the loan risks with financial institutions en-

couraging lending and the development of new products geared towards collateral-deficient borrowers. These organizations have experience in dealing with the type of beneficiaries targeted by market linkage projects, and their existing governance arrangements help ensure sound lending procedures within the participating financial institutions.

- Projects usually disburse grants to specific beneficiary groups operating at any point along the supply chains. **Agricultural innovation grants** could be used to stimulate private sector and farmers engagement in activities related to technology generation, technology dissemination and overall innovation in a subsector. The process of obtaining and using the grants stimulates smallholders to be more pro-active and critical towards research and extension providers instead of being passive recipients of top-down technological recipes. Even more specific are the farmer-driven agricultural innovation funds that allow farmers to influence the whole process of research agenda setting (i.e., query generation, prioritization and fund decision-making) and research execution. Smallholder representatives participate in the governance of the grant fund, giving them the possibility to include the interests of smallholders in the interactions with research providers and to determine the type of research required for their particular farming needs.
- **Business development matching grants** are more commonly used by projects and involve business proposals designed to coordinate input provisioning, marketing or added-value production. Intermediary organizations need to help local groups of smallholders and/or agribusinesses to generate feasible business proposals eligible for funding. These grant systems do not focus on a predefined menu of technological options, and therefore are more flexible and functional to promote smallholder and agribusiness specialization in specific markets.
- **Vouchers** are grants provided directly to end users to enable them to procure specific goods

(e.g., fertilizers) or services (e.g., research and extension) either in the form of vouchers that represent a certain monetary value or through the reimbursement of costs once proof is provided of the transaction. The advantages of vouchers are that users can try a new good or service without the associated investment risk, create access for people who do not have sufficient purchasing power, and facilitate a relationship of accountability between the service provider and the client. For voucher systems to function properly, smallholders must learn to identify and articulate their needs, negotiate with service providers, and judge and control the quality of the services. Service providers must have the right skills and knowledge to deliver the required services.

#### 4. Prioritize collaboration among producers over the development of formal organizational structures.

Farmers should decide for themselves whether they wish to operate together as a formal group or remain a loose alliance based around a common economic interest. Projects can assist those farmers who may wish to formalize their group structure in response to a market opportunity. Group development is a bottom-up, member-owned, and democratically operated process (not imposed from outside by governments, projects or NGOs), with transparency in operational rules and management decisions. Buyers interviewed during research for the feasibility studies in Punjab and Sindh reported that they would be interested in dealing with project-supported producer groups provided they can deliver to the buyer's requirements. Producers aggregating their produce helps reduce the buyer's transaction costs, and hence larger buyers connected to higher value markets are more interested in dealing with groups of smallholders rather than large numbers of small suppliers.

- Social structures, community hierarchies, gender roles and wealth gaps are important factors to be considered in producer collective actions.
- Group size, location, proximity to markets, trust among members, access to finance, technological requirements, access to suitable extension advice, and the capacity of farmers

to adapt to new systems can be barriers to achieve effective operations and sustainability.

- Projects should also focus on building management capacity and group mentoring for as long as possible in order to build competent leadership.
- Group formation is most successful when farmers perceive that the benefits from collaboration outweigh the additional costs of complying with collective rules and norms.

**5. Assist farmers to improve their on-farm productivity and production decisions to be more aligned to market demands by:**

- Overcoming the current market information asymmetry by supporting affordable mechanisms for smallholders to access useful, timely and transparent market and price information through mobile phones that would enable them to make informed decisions on what, when and where to produce and sell.
- Developing or improving smallholder-targeted infrastructure, such as irrigation, small-scale centers for processing and packaging, storage equipment and facilities to enhance availability, food safety, and reduce food losses and waste.
- Facilitating production diversification to increase resilience to climate change, natural disasters, and price shocks, and reduce their seasonal income fluctuations.
- Capacity building and training of smallholders to adopt innovative technologies and practices (e.g., GAP, GHP) to promote value addition, and the diversification of production and income sources.
- Facilitating the provision of extension, financial, and business development services.

**6. Monitor outcomes from the chosen project intervention to determine the effectiveness of different market linkage approaches for a given operational context so that it can be expanded or possibly replicated in other project locations or with other commodities.** The challenge for market linkage proj-

ects is to maintain a focus on smallholder producers, while managing an increasingly complex group of actors and facilitating behavioral change within organizations and in the farms. The market linkage approach to be expanded should be based on evidence regarding an assessment of its scalability, efficiency, effectiveness, financial sustainability, and applicability. This assessment should be documented, accompanied by lessons learned and articulated in knowledge products and possibly operational toolkits that could guide the design and/or implementation work. The design of the evaluation should focus on answering:

1. Does the market linkage approach work? Find evidence that demonstrates the approach is itself contributing to the positive outcomes gained by the project beneficiaries.
2. How does the intervention work? Understand the specific processes and mechanisms through which the market linkage interventions delivered impact.
3. Will the market linkage intervention work in other areas or commodities? Use innovative and pragmatic approaches to examine whether the intervention can be replicated in other locations. For example, identify the market demand, opportunities and constraints (e.g., in terms of infrastructure, communication technology, prices, etc.), or the interest of the private sector to invest in the commodity as a business opportunity.

## Institutionalization

**110. Establishing a permanent Project Management Unit (PMU) is the recommended option for institutionalizing market integration work in the provincial governments.**<sup>68</sup> The PMU would be established within the relevant Agriculture Marketing Secretariat of each province under a Board of Directors chaired by the corresponding Secretary of Agriculture Marketing with members from the private sector, NGOs, and the government. The PMU would be expected to become an independent directorate within the Secretariat. The PMU would consist of the following units:

<sup>68</sup> Ali, M. (2022).



- **Social Mobilization:** Collaborates with the National Rural Support Program, the Sindh Rural Support Organization and other NGOs to form producer groups and register them (if applicable); record membership, financial accounts, etc.; and support groups during project implementation.
- **Implementation:** Responsible for daily project operations; identifying technological, value addition, and processing activities for project funding; preparing feasibility studies and implementation plans including investments in equipment, machinery, infrastructure, human resources, capacity building and technical support; monitoring investment progress and resolving technical issues.
- **Market Integration:** In charge of identifying opportunities to link producers with downstream buyers (e.g., processing companies, supermarkets, exporters/importers, wholesalers) serving both national and export markets. The unit would establish links with potential buyers, collect information on market prices, quality and demand trends, find potential new buyers, and communicate with producers. The unit would also be responsible for market promotion and for linking various commodity stakeholders through national expositions and participation in international trade fairs, etc.
- **Financing and Administration:** Tasked with assisting producers and agribusinesses to obtain loans from banks, micro-finance institutions, etc. so that they can invest in the necessary technologies to exploit an identified market opportunity. The unit would manage any available project funding (e.g., matching grant schemes) and solicit expressions of interest from target beneficiaries, shortlist applicants, assist the drafting of business proposals, monitor investment progress, etc.
- **Capacity Building:** Responsible for training producers and agribusinesses according to the needs identified by the Implementation Unit. It would also hold workshops and training courses



and arrange international trips for capacity building of different stakeholders. The training modules would be aimed at covering all the relevant aspects required for the design and implementation of market linkage projects.

**111. Alternatively, the responsibility for managing market linkage projects could be assigned to an already existing government agency** such as the Agriculture Delivery Unit (Punjab), one of the various semi-autonomous companies or programs already developed in each province during previous donor-supported projects, or a combination of these organizations, particularly those with certain expertise (e.g., financing). For example the Sindh Rural Support Organization, the Pakistan Microfinance Investment Company, the Pakistan Agricultural Coalition, the Agribusiness Support Fund, the National Rural Support Program, the Rural Development Foundation of Pakistan, the Sindh Enterprise Development Fund, the Management and Development Foundation, and the Pakistan Poverty Alleviation Fund all have experience in dealing with small-scale growers, business development, and management of market linkage projects.





# Conclusions

**112. Present agricultural marketing systems in Pakistan involve numerous actors performing different functions along extended supply chains that add costs and inefficiencies before reaching the final consumer.** Pakistan's agricultural marketing is wasteful due to a number of constraints such as poor infrastructure, high market margins, poor post-harvest management and non-implementation of grades and standards. There is a need to modernize and upgrade fresh produce marketing systems by removing these constraints, adopting market-oriented practices and improved business skills among all stakeholders. Equally, the ability of producers to supply new markets and meet the commercial realities of modern supply chains needs to be critically assessed to determine whether the target farmers can fulfill the requirements in terms of quality, quantity, timing of delivery, etc.

**113. Mechanisms are needed to strengthen the linkages among government agencies responsible for agribusiness development.** The reinforcement of such inter-agency linkages would improve the business enabling environment to encourage more private invest-

ment in the local agriculture sector. The current marketing systems in Pakistan have not been able to provide the consumer with a more diverse food supply, leading to suboptimal nutrition results, and depriving farmers from additional income opportunities. In turn, this inhibits agricultural growth. Pakistan needs innovation in its agricultural marketing in order to insert more dynamics into the sector.

**114. This report has recommended some approaches and potential interventions that project partners could utilize to assist the creation/enhancement of links between farmers and the private sector.** Previous public and private initiatives in this field have successfully demonstrated the market possibilities available to small farmers in Pakistan. Promoting formal and complex marketing schemes may not always work for smallholders, particularly when trying to link them to higher value markets. Traditional marketing channels certainly have to become more sophisticated if they are to compete with modern food supply chains. But they continue to offer considerable market opportunities for smallholders, and donors and

governments can facilitate their improved operation. Even within the more vertically-connected supply systems that have created dynamic industries in Pakistan (e.g., citrus exports, milk and potato processing), these supply systems are still intertwined with traditional marketing channels.

**115. Market-oriented collective action is most successful when it overcomes the high transaction costs of farmers acting individually.**

While farmers may be aware of the potential benefits of such collective action, this awareness may not be enough to overcome their suspicions about working together. Most of the successful direct linkages between the private sector and farmers noted in this report were initiated by the private sector without the formation of producer groups. Therefore, project partners need to be flexible regarding group formation for marketing purposes. The challenge is to determine an effective group size that is big enough to exploit economies of scale and market opportunities without causing conflicts among members or between groups and buyers.



# Annex 1. International Experiences

## **Overview of international approaches and best practices in producer organization development/strengthening, value chain development and market integration of (smallholder) producers**

Development practitioners aligned their approaches to rural development with two major transformations of the agri-food industry. The first transformation began in the 1950s and involved public sector-driven food system developments with the goal of national food self-sufficiency. There was a focus mainly on: basic grains and commodity markets; wholesalers; public policies (standards, parastatal marketing boards, extension services, buffer stocks and stabilization schemes, subsidies, etc.); spot markets and fragmented supplier networks; and small shops, wet markets and central markets. Goods traded were undifferentiated, unprocessed commodities. Later, as the “Green Revolution” emerged, input markets became important as the means to provide key support for increased on-farm production using improved technologies (e.g., seeds, fertilizers, machinery). Development entities focused on establishing producer organizations as an efficient means to distribute new technologies, technical support and training (e.g., farmer field schools) in order to increase on-farm productivity and production of key staples crops.

The second stage was the liberalization and globalization of the agri-food industry that started in the early 1980s and continues today. Socioeconomic factors

(e.g., income increases, urbanization), policy changes (e.g., market liberalization, privatizations), liberalization of foreign direct investment, and increased domestic investment induced the transformation. The private sector led new developments that included an increased concentration in agro-industrial sectors, larger processing and retail companies that delivered a “supermarket revolution”, and the spread of fast-food chains.

Many countries (e.g., Kenya, Malaysia) redefined their food security priorities and moved away from their previous strong commitments to food self-sufficiency. The market-oriented economic reforms, (e.g., structural adjustment programs, multilateral trade liberalization agreements) reduced cross-border distribution costs and barriers. Foreign firms often filled supply gaps, which manifested in an increase in the share of foreign control, often by multinational companies, in local agri-food sectors. This trend fostered an increasing integration of goods and capital markets around the world, linking farmers in the developing world to higher value markets (e.g., North America, Europe).

But rapid economic changes challenge the ability of smallholder farmers to supply their products to the market and many have seen their incomes fall relative to manufacturing jobs. Tightly coordinated supply chains that are unfamiliar to most producers have emerged, where a buyer may negotiate a contract with a grower for a specialized product, grown to strict specifications and packaged in a particular way. This new organization of the supply chains is different to conventional marketing systems that involve

many intermediaries, and the buyer does not know the producer.

Population, income growth and urbanization have induced global changes in consumer demand patterns, with a disproportionate growth in demand for dairy, meat, horticultural and processed grain products, as compared to the demand for unprocessed staple foods. These changes triggered the rise of vertical coordination in the food industry via contracts and other market linkage arrangements; private grades and standards for food quality and safety; and rapid technological and managerial change in downstream industries. Rapid technological change continues to enhance productivity, enabling customized production and marketing processes, all with lower transaction costs. Population aging is also accelerating and becoming more pronounced in rural areas. Urbanization and aging have important repercussions on the agricultural labor force and the socioeconomic fabric of rural communities. Most smallholder farmers in developing countries have struggled to adapt and reap any available economies of scale.

The agri-food sector thus became more focused on demand rather than producer-defined agricultural goods, a global, liberalized and fragmented marketplace with high product diversity, stricter food safety and traceability requirements, and higher quality standards in conjunction with the enforcement of basic environmental and societal regulations. Meeting the challenges of consumer demand for more processed foods requires increased investment in equipment, working capital, skills and knowledge. Such investments are not only costly for individual businesses, but they also need assurances from elsewhere in the chain for supplies, produce or markets. Therefore, the need emerges to strengthen the links and commitments amongst value chain players.

Due to the food system transformations, development practitioners recognized that traditional approaches that concentrated on strengthening farmer production capabilities alone were no longer sufficient to ensure sustainable income growth. There is an increasing understanding that production support must be linked to

market demand and considered within the context of the whole commodity supply chain. Linking producers to (higher value) markets and understanding the business relations in the chain, necessitates private sector involvement from the onset of any project intervention.

## Models

The relationship between buyers and sellers can be described through five types of market linkages:

- 1) Instant or spot market, where producers come to sell their commodities, including auctions at wholesale market centers
- 2) Contract farming
- 3) Long-term, usually informal relationships, characterized by trust or inter-dependency
- 4) A capital investment by one of the buyers for the benefit of producers, characterized by high levels of producer credibility and dependence (e.g., out-grower schemes)
- 5) A peak company driving vertical coordination along supply chains

Smallholder farmers are more viable contributors to modern agricultural systems when they participate in organizational models that promote economies of scale and reduce risks for lenders and buyers. Typical organizational models of smallholder production and marketing include: producer-driven associations (producer groups, cooperatives); buyer-driven (traders, wholesalers, processors, etc.); facilitator-driven (NGOs, projects, government); and integrated (lead firms, supermarkets, multinationals).

### *Producer-driven models*

These market linkages include initiatives such as cooperatives and farmer-owned businesses that have had a mixed record in providing members access to dynamic markets. These producer organizations engage in a wide variety of supporting activities, but rarely focus on providing an effective marketing channel and often have problems cooperating with agribusinesses. These farmer organizations are important for enhancing competitiveness and are better able to build on informal linkages in the market.<sup>69</sup>

69 Negassa, G. J. (2015). *Assessment of Market Linkages for Smallholder Farmers of Coffee Producers in the Gihmbi Zone, Ethiopia*. International Journal of Scientific and Research Publications, 5:3.

Producer-driven models are mostly present in supply chains focused mainly on production over quality such as calorically dense (e.g., rice, potatoes, wheat, and corn) or high in protein (e.g., meat and poultry) food staples. When producers are organized in groups, associations or cooperatives, they can be key players in some value chains. In certain contexts, the group is the driver of development by providing technical assistance, marketing, inputs and linkages to finance thereby earning a higher share of value addition along the chain. Through project support, these groups become strong enough to network, search for buyers and negotiate contracts. These models are particularly viable when farmers sell specialized products (e.g., organic rice).

But it is rare for farmers to self-organize on a formal basis, and generally, they need support to build their capacity to establish and sustain often complex market-oriented networks. In India, the government promotes 'Producer Companies' with supportive legislation, but these have been slow to establish, and mainly concentrate on production and farming inputs, although some have started to organize links to large retailers.<sup>70</sup> Producer-driven models face many difficulties: (i) producers may not understand the market needs as well as the post-farm gate players who are closer to the end user; (ii) unless the groups have strong partners or are assisted, producers often struggle to get financing and establish viable market linkages; (iii) mistrust among members; and (iv) lack of business skills.

Kangazi et al. provide an example of a potato producer group in Uganda identifying and successfully sustaining sales of high-quality potatoes under contract to a fast-food outlet (Nandos) in Kampala. Farmers, supported by an NGO service provider, needed to learn new skills and integrate multiple technical, organizational, financial and marketing innovations. Their collective action, combined with strong leadership and an iterative market-led learning process, enabled them to meet the stringent quality parameters of a modern food outlet. Some market linking lessons included:

- (i) all interventions should be firmly based on market demand and sound market analysis;
- (ii) marketing skills should be considered as important as technology;
- (iii) a lead farmer was responsible for analyzing market options, making marketing decisions and building business relationships: empowering certain group members in marketing was critical to achieve market responsiveness and overcoming emerging challenges;
- (iv) to invest in its business plan, the group first borrowed from a local money lender before establishing a savings and loan group that fostered resiliency among more men and women to financial shocks; and
- (v) farmers need to learn the skills that enable them to strengthen or replicate their new market options and products, and thus, the extent of skills transfer to farmers should be considered as equally important to other traditional indicators of project effectiveness based on income and/or the number of farmers accessing a new market.<sup>71</sup>

### Buyer-driven models

The modernization of food systems and the emergence of a private sector-led transformation meant agri-food companies needed to control their costs, the flow of produce, and increase quality to strategically position their companies in more competitive markets. This entailed a shift from public to private food standards, the vertical coordination of supply chains using contracts and market linkages, and a shift from local sourcing to national, regional, and global sourcing. Buyers may supply inputs, arrange credit, mechanization services, and technological or extension advice. By linking with buyers in advance of production, farmers can have a more assured market and often an agreed price. This model is particularly appealing when a private company can be identified and selected at project design to become part of the project from the start and/or when the identified intervention needs a private partner willing to invest significantly in processing.<sup>72</sup>

70 Wiggins, S., and Compton, J. (2016). *Factors leading to Agricultural Production Aggregation and Facilitation of the Linkage of Farmers to Remunerative Markets*.

71 Kaganzi, E., Ferris, S., Barham, J., Abenakyo, A., Sanginga, P. and Njuki, J. (2009). *Sustaining linkages to high value markets through collective action in Uganda*. Food Policy 34.

72 IFAD (2015). *Sustainable Inclusion of Smallholders in Agricultural Value Chains*. Scaling up note.



## Contract Farming

Agri-food companies place a degree of control over quality and delivery, proxied by the use of simple contracts (specifying price and quantity) versus more complete contracts that specify input types, delivery schedules, quality standards and provision of inputs. The latter help address small farmers' constraints regarding access to credit, farm inputs, extension, and output procurement. These 'full service' contracts are most useful for downstream operators in high value, fresh produce markets (fruit, vegetables, dairy, aquaculture); where there are no large farmers; or where they wish to broaden their supply base beyond the limited large-farm base into the masses of small farmers, while meeting increasingly strict private standards for quality and safety.

The types of contracts are also dependent on the demand for the product, locally or internationally. Where farmers have a choice between downstream partners, they have scope for bargaining the contract attributes (e.g., farmers negotiate to buy and use their own inputs rather than the inputs provided by the buyer). Where there is less demand, contracts are more inflexible, and the buyer determines the type of contract.

Mitigating risk is one of the most important reasons for contracting. Companies seeking to develop contract farming arrangements with farmers, need to address how those farmers can fund their start-up and ongoing costs. Contracting companies often provide inputs and mechanization services on credit, particularly when they are confident that farmers will deliver their harvest to them. In unforeseen circumstances, flexible contract arrangements with the potential for renegotiation are desirable. Ideally, contracts should be viewed as tangible proof of business rules that are based primarily on trust and information transparency.

Some of the benefits and challenges of contract farming include:

Benefits:

- Access to secure markets and prices for producers.

### BOX 5.

Northern Foods Corporation is a food processor based in the Philippines which contracts small farmers to produce tomatoes for paste that the company then sells to end users such as fish canners, sauce manufacturers and fast-food chains. To ensure the quality of the produce, the company provides inputs and technical support to farmers. The benefits for each partner include: (i) shortened supply chains and reduced costs of production; (ii) technical assistance for farmers, improved input supplies and protected prices; (iii) reduced post-harvest spoilage as tomatoes are immediately forwarded to the processor following harvest; (iv) assured supply of raw materials for processing; and (v) minimized dependency on imported tomato paste.<sup>74</sup>

- Access to appropriate input supplies in a timely fashion.
- Increased access and reliability in the procurement of raw produce of desired quality for buyers.
- Opportunity for lower input costs due to improved planning and economies of scale.
- Enhanced access to credit despite a lack of collateral.
- Support in the development and achievement of quality standards and certification.
- Provision of market-focused technical training and assistance.
- Potential advancement of positive relationships and increase in trust.

Challenges and risks:

- Reliance on a single buyer who could fail or lose interest (market changes, bankruptcy, etc.).
- Side-selling by farmers.
- Cost to the buyer of contract management.
- Enforcement of contractual obligations by either party.
- Regulatory environment for contracts and their enforcement.

73 Miller, C. and Jones, L. (2010). *Agricultural Value Chain Finance. Tools and Lessons Learned*. Practical Action Publishing.

- Tendency to favor larger farmers due to lower transaction costs and their stronger asset base.
- Lack of technical capacity to develop viable value chains, especially involving small farmers.

Critical factors for effective contract farming include:

- Mutual benefits for both parties – synergy, mutual trust and reciprocal dependency.
- Creation of an enabling environment.
- Minimizing transaction costs and bottlenecks when dealing with multiple contracting parties (e.g., collaboration with producer groups, business service providers/facilitators).
- Appropriate consideration of production and marketing risks in the design of contracts.
- Careful selection of the enterprise (high value commodities, processed goods and export-oriented enterprises have demonstrated most success). The scheme has to generate acceptable returns to growers and contracting firms, and therefore, it helps when the contracting firm has access to a market that pays premium prices.
- Credit provisions, as necessary, to small producers for initial investments and ongoing costs.
- The provision of technical assistance implies that the contracting firm has a long-term commitment to making the scheme work, has invested in the processing plant and in relations with its customers in distant places, versus traders with minimal investments looking for short-term gains.
- Clear quality standards are understood at all levels.<sup>74</sup>

## Out-grower Schemes

Out-grower schemes are a form of contract farming without growers tightly integrated into a value chain through a relationship with a large-scale, often export-oriented company. Kersting and Wollni (2012) analyzed the different institutional arrangements that could be implemented in the Thai fruit and vegetable subsector to obtain the GlobalG.A.P. certification: farmer- or donor-managed (supply side) versus exporter-managed

(demand side) out-grower schemes. Complying with GlobalG.A.P. is a major challenge as growers need to reach the standards demanded by high value markets (e.g., European Union). While start-up costs are a barrier to adoption, recurrent costs can also threaten sustainability. The analysis showed that:

- support by donors and exporters in training, financing and managerial support was critical to enable growers to meet the requirements of international food quality standards,
- while farmers in donor-managed groups were 40 percent more likely to adopt GlobalG.A.P., they were also likely to drop out of certification after donor support was discontinued,
- out-grower partnerships with exporters were more likely to remain viable because exporters had a vested interest in the GlobalG.A.P. certificate, and most exporter-managed out-growers were supported to renew their certificate each year.<sup>75</sup>

## Lead Farmer

One variation of an out-grower scheme is the lead farmer model where high-performing farmers in a community influence the decisions of other farmers. In plantation crops, a company may operate its own plantation adjacent to the processing plant and supplement its production by contracting out-grower suppliers. A company or facilitator usually identifies and builds the capacity of those farmers most capable of consistently meeting the targeted product quality requirements. Once they demonstrate such capacity, lead farmers receive new or larger product orders and are encouraged to work with neighboring farmers to meet this demand. The lead farmer thus serves as a node in providing technology, technical assistance and market access.

Ba et al. (2019) analyzed rice markets in several Asian countries where supply chains are fragmented with arm's length transactions, numerous middlemen, and little coordination. They concluded that horizontal coordination of smallholders either through government or

<sup>74</sup> Miller, C., et al. (2010).

<sup>75</sup> Kersting, S. and Wollni, M. (2012). *New Institutional Arrangements and Standard Adoption: Evidence from Small-Scale Fruit and Vegetable Farmers in Thailand*. Food Policy:37.

project interventions under increasing levels of vertical coordination, can potentially reverse contract bias towards larger producers. Projects may invest in strengthening farmer organizations more efficiently through selected lead farmers that promote farmer-to-farmer learning. Some of their observations were:

- Farmer-to-farmer extension offers an option for technology dissemination, firstly from the trained lead farmers to those farmers who have social ties with them, and then to other farmers through plot proximity.
- Ensuring selection of quality lead farmers: while a community-based participatory selection process helps choose a representative of the average farmer in the community, the lead farmer also needs to be progressive and willing to try new practices.
- Maintaining and incentivizing lead farmers: lead farmers need continuous support in order to have sufficient mobility and incentives to keep promoting the technology supported by the project.
- Regular training: lead farmers need training and retraining on value chain concepts, communication, and agricultural management; farm demonstrations need to be continuously supported so that new technology can be absorbed.<sup>76</sup>

A vegetable farming group of 72 members in Chiang Mai, Thailand, supplies a variety of fresh vegetables to two supermarkets and a university shop. The group's chairman acts as the buyer and has supplied the supermarket chain for more than 15 years without a contract. The chairman must carefully determine the right quantity to deliver each day to avoid losses. Fruit is inspected piece by piece for quality and freshness, leading to high rejection rates that are returned to growers. Each member's code is included on bag labels for traceability. The case provides an example of a leading farmer, trusted by the others, acting as a trader, to the benefit of all group members.<sup>77</sup>

## Traditional

Traders directly interact with farmers, either buying from them at local markets or at the farm gate. In these systems, traders connect low-resource endowed farmers to markets, while providing them with funds for harvesting, inputs or other needs, such as family emergencies. Traders endeavor to buy sufficient quantities to achieve economies of scale, with transport being their greatest cost. Alternately, purchases at the village level can often be inefficient, add extra layers to the supply chain and contribute to high marketing costs and retail prices. Such costs can be reduced if farmers work together to bulk their produce at one location for purchase by one or more traders.

Traders often set prices without knowing the market price or the quality of the produce at the time of delivery. The prices offered tend to be low to mitigate the risk to the trader (who may have advanced credit to many farmers) and therefore are often disadvantageous to farmers. This strategy contributes to the perception that traders are dishonest and exploit information-poor smallholders and consumers through monopolistic pricing and usury. Such a belief is often used as a justification for strengthening government interventions in the markets. However, middlemen are often tied to credit and social welfare support in communities that could be geographically isolated, and/or politically and economically marginalized. Also, they are often prominent community members, growing the same products as their suppliers. Thus, market linkages through traders provide a type of cooperation among farmers that could be a basis for a more formal structure.

Bailey, et al. (2016) assessed the existing value chain relations centered around the role of middlemen in fishing communities of the Moluccas, Indonesia and the efforts to bypass them by introducing Fair Trade certification. Middlemen play a key role in aggregating fish to sell to downstream actors, and often control local financial systems but are stigmatized as rent-seeking actors who keep fisherfolk poor by limiting their ability

76 Ba, H., de Mey, Y., Thoron, S. and Demont, M. (2019). *Inclusiveness of Contract Farming Along the Vertical Coordination Continuum: Evidence from the Vietnamese Rice Sector*. Land Use Policy: 87.

77 Shepherd, A. (2007). *Approaches to Linking Producers to Markets: A Review of Experiences to Date*. Agricultural Marketing, Management and Finance Occasional Paper 13. FAO. Rome.

to venture into new (value chain) functions. Middlemen provide credit at the start of each season and throughout the fishing season to cover unforeseen costs, often as interest-free loans thus, mitigating much of the risk for local fisherfolk. Collective actions that bypass middlemen would allow fisherfolk to control their sales and potentially obtain higher margins on their produce. Yet, the assessment concluded that:

- Balancing the facilitative and exploitative role of middlemen in traditional value chains is complicated but pretending that middlemen are expendable is a necessary first step.
- Increasing the value that the producer gets for its produce by shortening supply chains may come at a higher overall risk and vulnerability to the community, as it was unclear whether producer groups can replicate the same risk reduction functions provided by middlemen.
- Upgrading skills and functions should not be understood only in economic terms but should also include the often complex social and cultural interactions between industry actors.<sup>78</sup>

## Productive Alliance

A Productive Alliance is any form of collaborative arrangement between small producer groups and an agribusiness firm, aimed at reducing the technical, commercial, financial and/or social risks associated with the pursuit of potential income gains. The promotion and funding of such alliances in World Bank projects started in the early 2000s primarily in Latin American and Caribbean countries,<sup>79</sup> but the approach has since expanded to other regions. Working in groups can help producers link to higher value markets, benefit from economies of scale and share technical knowledge, production and marketing practices thus, enhancing productivity and reducing transaction costs. Producers develop a business plan in collaboration with private partners and the project funds eligible applicants chosen through a thorough selection process. A contract is usually signed

at commencement with specific conditions on quality, quantity and timing of delivery. Some lessons learned from Productive Alliance projects include:

- Farmers from a community with a background of strong collective work and social cohesion perform better than groups with weaker links among members.
- Identifying and analyzing promising value chains based on technical criteria, aligned with project objectives and market potential, is important to ensure effectiveness and sustainability. High value products such as fruits (including cocoa and coffee), dairy, and horticulture delivered the most effective results.
- It is preferable to focus on farmers who have potential to engage in modern and dynamic markets rather than a welfare-oriented approach targeting subsistence-level producers.
- Establishing a competitive and transparent grant selection process based on clearly defined evaluation criteria is crucial for establishing credibility among stakeholders, avoiding political interference, and safeguarding the technical quality of successful applications.
- Grants aimed at linking smallholders to higher value markets have had limited success in leveraging funding from the finance sector to support business plans.<sup>80</sup>

The establishment of any alliance between producers and a single or limited number of buyers is risky. If the buyer has difficulties or is forced to close his operations, this will create a cascading impact throughout the network of suppliers in the Productive Alliance. For example:

- IFC invested in Pearl Dairy, a major dairy processor in Uganda, to increase the company's processing capacity with an accompanying expanded milk collection system. A network of supplying farmers was established by the dairy firm. But due to COVID and a trade dispute

78 Bailey, M., Bush, S., Oosterveer, P. and Larastiti, L. (2016). *Fishers, Fair Trade, and Finding Middle Ground*. Fisheries Research 182.

79 World Bank (2016). *Linking Farmers to Markets through Productive Alliances: An Assessment of the World Bank Experience in Latin America*. Washington.

80 De Salvo, C. (2014). *Productive Alliances in Latin America and the Caribbean. A Review*.

between Uganda and Kenya, the destination of most of the company's produce exports, the factory was forced to close down. The affiliated milk suppliers had no other similar outlet and sold onto local markets, leading to a 30 percent drop in milk prices.

- IFC financed a beef slaughtering and export facility in Madagascar. Farmer organizations were established to promote increased production and to supply cattle to the facility. However, in the four years since the IFC investment, there have been no exports, and farmers who invested in production intensification have been unable to recoup their funds.

The main implication is that to facilitate productive alliances, partners need to be carefully selected, with emphasis on including operational and experienced business partners.<sup>81</sup>

## Vertical Integration

Vertically-integrated companies control large portions, if not all, of the supply chain. Examples of some of the larger agri-food companies in Asia vertically coordinating their supply chains include: CP (Thailand, chicken), PepsiCo (Pakistan, potato), Mars (Indonesia, cocoa) and Nestle (Pakistan, dairy). Many mid-sized agribusinesses and larger local supermarket chains are also working to fully integrate their local suppliers, particularly for fresh produce, into their procurement networks.

Increasing urbanization, changing consumer preferences and eating habits, increased infrastructure development, and low margins have led to the consolidation of food supply chains and to quality-based competition amongst a smaller number of buyers. The competitive advantage increasingly lies in more specialized products that allow market leaders to distinguish themselves from competitors and cater to premium-paying consumers with more demanding preferences. To facilitate traceability and ensure food safety and quality, lead companies deal with a small group of preferred, generally large-scale suppliers capable of meeting the firms' stringent (and costly)

### BOX 6.

Engro Foods operates the largest UHT Milk supply chain in Pakistan through a network of 43,000 farmers and 1,500 Milk Collection Centers (MCC), although it still depends on middlemen to deliver about 35 percent of the daily requirements of its milk processing plant in Sahiwal, Punjab. Engro employs specialists (veterinarians, livestock nutritionists, etc.) and affiliated input suppliers to support farmers so that they can meet the company's requirements regarding animal housing, feeding, breeding, health and welfare. The company owns and manages all MCCs in order to ensure the quality standards of the milk delivered to its processing factories. Farmers are immediately paid via electronic transfers once their milk is accepted by the MCC manager. Engro provides concentrated support to its smallholder suppliers for one year before their operations staff take over the extension duties.

requirements. Smallholders unable to adapt to this new reality are marginalized and confined to local markets.

The agro-processing company contracts describe in advance the amounts and quality of inputs, volumes to be harvested, quality and grading standards, prices, and expected delivery schedules. The company supports its producers to varying degrees with specialized extension services, input service provision (e.g., nutrition, veterinary, agronomy, cold storage) and sometimes financing, in order for growers to implement the correct production practices. Trifkovic (2016) observed that integrated farmers had higher yields and revenue per hectare than independent farmers in the Vietnamese catfish export industry. Processing companies could better manage the production process with integrated growers by providing: better production advice, credit and key inputs (such as feed), access to timely services (such as veterinary care to manage disease outbreaks), and better infrastructure (such as dams that do not overflow in the rainy season).<sup>82</sup>

<sup>81</sup> Bellinguez, A. et al. (2021).

<sup>82</sup> Trifkovic, N. (2016). *Vertical Coordination and Farm Performance: Evidence from the Catfish Sector in Vietnam*. *Agricultural Economics* 47.



## What is the international experience with different value chain development/producer market integration approaches in the respective sectors analyzed (livestock, fisheries/aquaculture, fruits/vegetables/crops)?

Smallholder farmers usually operate in unorganized and informal supply chains characterized by:

- dispersed production with small volumes;
- poor product handling and post-harvest practices;
- need for transport, storage, processing and packaging;
- informality of markets, without price and market information;
- price distortions;
- need for financing at all levels.

These supply chains need to be organized, shortened, and modernized in order to increase incomes. To achieve these objectives, development agencies generally consider that producer groups are the most efficient means to support farmers to transition from a production-led to a more market-oriented farming system. Through group membership:

- Farmers can access extension and inputs more easily, improve the quality of their produce, increase their productivity, achieve economies of scale, and increase their bargaining power with buyers.
- For projects, government agencies and companies, the provision of credit, technical support, and inputs is easier when done through producer groups, which can reinforce peer pressure to discourage non-compliance with any of the group's obligations.

While farmers may be aware of the potential benefits of collective action, this awareness may not be sufficient to overcome their suspicions about working together. Therefore, a group's marketing success is often easier when farmers normally collaborate (e.g., neighbor harvest assistance), or where they have participated in previous collaborations (e.g., savings and loans groups).

Group formation is most successful when farmers perceive that the economic benefits from group activities outweigh any additional costs. Project teams should clearly identify these potential benefits early in any project area and target commodity before beginning the group formation process. Too often, projects focus undue amounts of time and resources establishing groups and their legal status while paying scant regard to the economic imperative. Therefore, project teams need to develop and enhance the economic performance of a group, both through production intensification and marketing improvement, while at the same time working on the institutional and organizational aspects of the group formation process. These economic benefits must be sustainable and not derived from membership entitling farmers to subsidized assistance.

Group development should be a bottom-up, member-owned and democratically operated process (not imposed from outside by governments, projects, or NGOs). Therefore, formal groups will require a set of rules and regulations, or by-laws, to govern their operations. Farmers' commitment to a group is also likely to be directly related to whether they perceive that the benefits of compliance outweigh the costs. Similarly, group members should decide whether they wish to formally register their group or if they want it to remain a loose formation. Without sufficient leadership and management skills, producer groups are bound to fail. Likewise, a group needs to have a business orientation from the onset. Providing project support and mentoring for as long as possible is critical but cannot guarantee sustainability. Where there are doubts about the ability of farmers, even with training, to manage their business-oriented groups, then alternative approaches should be considered for linking farmers to markets.

Social structures are important for the effectiveness of producer groups. Community hierarchies, gender roles in local agriculture and wealth gaps are important considerations when developing groups. Larger groups (more than 30 members) seem to require more external support than groups of around 20-30 members.<sup>83</sup> The challenge for projects is to determine an effective group

83 Coulter, J. (2006). *Farmer Group Enterprises and the Marketing of Staple Food Commodities*. Paper presented to CAPRI Research Workshop on Collective Action and Market Access for Smallholders. Colombia.

size where: (i) economies of scale can be exploited and market opportunities identified without causing conflicts; (ii) the benefits for individual members are greater than their costs of compliance with collective rules and norms; and (iii) benefits are evenly distributed amongst all members without elite groups capturing the bulk of the benefits.

## Key Lessons of Success and Failure of These Approaches

The choice of product to promote must be based on market demand. But demand alone is not always sufficient to make the product suitable for all target farmers. The choice of produce must also consider the farmers' location, assets, education level and social structure, the available infrastructure, the farm size, the agronomic suitability of the land, the likelihood of pests and disease, the farmers' capacity to establish new enterprises, their access to finance and the capacity to use that finance profitably, technological requirements, access to suitable extension advice, and the capacity of farmers to adapt to new systems (e.g., adopting a novel grading system in order to receive premium payments).

### *Change producer perspectives*

From the farmers' perspective, the lack of, or inadequate access to, production or post-harvest technology, market information, and alternative buyers, limits their negotiating or bargaining skills and is a considerable constraint to initiating market linkages. Therefore, business models need to be kept as simple as possible and worst-case scenarios reviewed from the onset.

Producing for the market requires a completely different approach to the occasional sale of subsistence surpluses. Farmers need to supply on a consistent and reliable basis. Processing factories require a reliable supply of raw materials and supermarkets need to have a full range of produce available for their customers at all times. Small-scale farmers face difficulties in providing a consistent supply, even before meeting stringent safety standards and good commercial practices. Farmers must accept that a percentage of their produce will be rejected, and they will need alternative selling outlets.

Therefore, it is important to confirm from the onset that farmers will be able to meet the requirements of the identified buyers.

Farmers tend to be risk averse. But supplying to processors or retailers in higher value markets probably requires a willingness to make risky investments in production and post-harvest equipment, to plant new crops or varieties, to follow approved crop rotation practices and to concentrate on fewer crops. In many cases, farmers need considerable trust to make asset-specific investments or to accept the required debt. Therefore, any improved technologies promoted by the projects need to be viable for the targeted farmer group and should not excessively increase the vulnerability of farmers to external shocks.

### *Work within existing marketing systems*

Many project stakeholders remain hostile towards the private sector and suspicious of the motivations of middlemen, wholesalers, etc. To shorten supply chains and provide higher returns to farmers, stakeholders often try to establish parallel, farmer-controlled marketing organizations to compete with the private sector. But it may be unrealistic to expect farmers to become involved in a range of value-adding activities, including produce preparation and processing, storage, transport and sometimes, retail sales. Therefore, it is questionable whether vertical integration of this type should be promoted as most farmers are unlikely to ever have the capacity to manage the entire supply chain; and even if they could manage all tasks, would such a move be profitable for them?

Additionally, farmers often have informal credit linkages with traders and bypassing them could mean that project stakeholders would not only have to develop new marketing channels but also identify new credit sources. The existing social capital between farmers and traders provides a powerful incentive to strengthen these relationships. Many traders have the capacities and willingness to learn new skills in order to collaborate with farmers in a low-cost and culturally appropriate manner. They can advise on improved post-harvest techniques (e.g., quality issues) and on methods to increase supply

and/or reduce transactions costs. Therefore, development practitioners should improve their communication with the private sector in order to better understand how private companies operate in the targeted value chain, their constraints and costs, and where a project intervention could have the greatest impact for the benefit of all chain players.

Producer organizations supported by the private sector usually deliver more effective and sustainable results. But this often means that the participating company will have to go beyond commerce and enter into development. This may entail the establishment of a research department, extension services, field trials and farmer training—areas where a market linkage project could support chain development.

## Facilitation

While most development stakeholders acknowledge a key role for the private sector in rural development, a major weakness remains the lack of commercial skills at the local level to advise farmers on new business approaches for their enterprises. This is another potential project entry point: training local governments, farmers and civil society on business skills such as enterprise management, contract negotiation, market research, conflict resolution, supply chain analysis, use of basic business skills (e.g., book-keeping), and farm enterprise decision tools, such as crop budgets.

Common intermediaries facilitating market linkages are NGOs and private service providers who bring value chain players together, provide services (e.g., capacity building of farmers, information and sourcing to private companies, networking between the parties), broker and monitor linkages. Farmer groups need assistance to make decisions about whether to accept any risk associated with linking to higher value markets. Project resources, therefore, could facilitate the process of business development. Grants to enable groups to assess local markets, prepare business plans, trial particular products, and strengthen their skills in areas such as group management, book-keeping and post-harvest handling are usually effective uses of development

funds. Most cases of successful collective marketing highlight the crucial role of business service providers who facilitate collective action, provide information and technical assistance, and build the capacity of a group to effectively engage in marketing activities.<sup>84</sup>

Farmer groups or outside facilitators (e.g., NGOs) can often develop the linkages with a local retailer, restaurant or processor. But more sophisticated linkages (e.g., supermarkets) may require support from several facilitators. For example, donors provide technical inputs; NGOs may work with farmers in different production areas; another agency may complete market studies and/or work with processors; government agencies will play a role; and a financial institution may be involved. The weakest links determine the vulnerability of the supply chain and the related financial outcomes. While agency specialization can be advantageous, there are risks associated with the continued involvement of all parties, such as the potential for conflict or a lack of focus.

For example, numerous public and private stakeholders collaborated in a complex partnership to improve aquaculture practices in the shrimp industry in Southern Thailand. The value chain involved:

- The Ta Chin Shrimp Farmers' Cooperative which manages contract farming, prepares shrimp farm plans, trains farmers, coordinates financing, and manages traceability.
- The Bank for Agriculture and Agricultural Cooperatives which provides credit services.
- The provincial fisheries offices which manage the food safety standards and certification system.
- The Coastal Fisheries Research and Development Center which monitors food safety and certifies exports.
- The Coastal Aquaculture Station which transfers technology and diagnoses disease.
- The Ministry of Agriculture and Cooperatives which provides capacity building to cooperative members in business management and technology.
- The provincial commerce offices which support marketing.

84 Markelova, H., Meinzen-Dick, R., Hellin, J. and Dohrn, S. (2009). *Collective Action for Smallholder Market Access*. Food Policy 34.

- The agricultural marketing cooperatives which provide inputs and shrimp feed.
- Pac Foods and Union Frozen Products which purchase shrimp for processing.
- Farmers who produce shrimp according to regulations and requirements.<sup>85</sup>

## Build trust

Linkages with higher value markets usually involve transactions between remote parties who have had little or no prior contact. The lack of social obligations or the underlying trust of traditional systems, often means that neither party has a strong social incentive to honor an agreement despite compelling economic reasons. To help build trust, projects can facilitate meetings between buyers and farmers, support companies to provide prompt payments to their suppliers, and strengthen the partners' commitment to the business (e.g., by assisting companies to invest in key infrastructure such as milk collection centers, warehouses, cool storage units, etc.).

Side-selling by farmers creates mistrust and often leads to companies losing interest in developing sustainable relationships. For farmers with limited income-earning opportunities and usually in need of cash, side-selling makes sense despite damaging the possibility a long-term arrangement with a reliable buyer, if that buyer appears to be paying lower prices. Project teams need to devote considerable effort to develop trust between the various parties. If projects pursue the contract farming option as a means to link farmers to high value markets, then contracts should allow for renegotiation if prices or costs change excessively and, perhaps, allow farmers to sell a small percentage of their produce on the open market.

## Finance

Limited access to affordable finance is a major problem for producers that affects their ability to exploit market-oriented production opportunities. In traditional systems, traders may advance credit to farmers so that they can purchase inputs, plant their crops, or stock their ponds or fish during the season. The trader expects repayment in cash or kind once the producer harvests

the crop/fish. But to replace these traditional models is difficult because in most rural areas there are few, if any, specialized financial institutions prepared to lend to farmers/fishers. As most development organizations no longer provide direct credit to producers, market linking projects need to partner with microfinance organizations, banks, inputs suppliers or agribusinesses that can act as credit intermediaries and thus, carry some of the risk involved in dealing with primary producers.

Some of the critical challenges for providing agricultural finance include: a) disconnected value chains, b) the banking sector's lack of understanding of agriculture, c) the perceived high risks, d) an absence of collateral, e) complex loan assessment processes, and f) high transaction costs for both the lender and the borrower. The gap between the financing needs of value chain groups and financial institutions may not be due to a lack of funds by the financiers, but rather a lack of:

- understanding by financial service providers of how to provide appropriate financing products to the chain players; and
- well-developed value chains and strong, connected value chain partners with investment-ready plans for financing.

Development practitioners and governments can make a difference. Value chain projects are increasing the use of insurance, guarantee schemes, price hedging and storage (e.g., warehouse receipt schemes), and ICT to lower transaction costs. Collaboration between value chain partners helps reduce the risks associated with production, and contributes to develop the marketing, technical, organizational and management capacities that can entice financial institutions to be more active in this type of financing. From the onset, project designers and team members must consider the availability of suitable financial arrangements for smallholders to meet start-up costs, infrastructure investments, etc.

## Enabling environment

Governments often move beyond business facilitation towards decisions about agribusiness investment, fre-

<sup>85</sup> Miller, et al. (2010).

quently based on political rather than economic criteria, which can distort markets. The government's provision for key inputs can also undermine commercial service providers (e.g., finance, input suppliers). However, when markets fail to deliver, governments can play a key service provision role (e.g., affordable finance to small agribusinesses).

Some examples of areas where governments can play an active role to promote a more business-oriented agriculture sector include:

- Contract farming agreements. Businesses need certainty that they are dealing with legally recognized groups and that the laws are enforceable. Conversely, farmer groups will never be able to bear the legal costs of contesting large companies. Therefore, governments can play an arbitration role by establishing independent bodies, e.g., academics to resolve issues.
- Traditional land tenure systems may provide little incentive for farmers to invest in the necessary improvements to exploit market opportunities (e.g., irrigation, infrastructure) and comply with quality standards. Lack of secure tenure also precludes small farmers from accessing collateralized loans, obtaining water rights, etc. Governments can work, for example, on a more robust legal regime for land tenure or an improved/expanded land property registry.
- Quality control. Effective regulations relating to pesticide use, food standards, seed quality, food quality, etc. help direct all value chain players to abide by industry standards.
- Rural infrastructure and support services. Provision of reliable power and water supplies, promotion of competition among private phone networks, investment in rural market infrastructure including feeder roads and fresh produce assembly points, extension support (public or private, remote sensing support, etc.), improvement of rural stakeholders' marketing skills, coordination of research and development with industry and academia, etc.
- Research innovation support.
- Banking regulations that permit the application of new financial products and technologies.

- Risk sharing support. Incentive-based, risk-sharing systems through loan guarantee support, insurance, technical assistance, loan appraisal improvements, promotion of inclusive value chains development and market access activities.

### **Have such approaches worked primarily with individual or organized producers? Is there conclusive evidence on the benefits of either way to operate?**

International evidence is imperfect and inconclusive regarding the effectiveness of working with individuals or with producer groups. Smallholders can benefit from aggregation through collective action and contracting, either by gaining access to markets where premium prices are paid, through economies of scale in the supply chain, or from having more bargaining power with buyers. Under contracts, they may gain from more predictable prices (although this can be disadvantageous when the price at harvest time is less than the spot market price). Most projects involving smallholder aggregation schemes include additional services to marketing, aimed at benefiting farmers such as access to inputs on credit or technical assistance that allows them to grow crops of a higher standard, new higher value crops, or deploy more productive technologies. These gains may outweigh any consideration regarding prices or market access. Therefore, the question is not whether marketing through farmer organizations or through individuals is more effective, but under what conditions this happens.

A standard means of replicating successful approaches for linking farmers to markets at low cost, for the benefit of a large number of farmers does not yet exist. Whether market linking interventions were more successful when dealing with organized producer groups or individuals is dependent on multiple factors. Some lessons learned include:

- (i) Replicating or expanding a project intervention should proceed from some initial point of success when an enterprise cycle has proven profitable.
- (ii) But what is successful in one location will not necessarily be successful elsewhere, even in neighboring areas—it is not enough to simply duplicate an activity.



- (iii) Project teams need to understand the dynamics of the target community and value chain players, and activities should be adapted accordingly.

National and export markets may offer higher returns, but they also present greater challenges in terms of quality control, transport and market risks. Producer groups were thus, more successful when targeting sales of perishable and potentially high value products (fruit, vegetables, dairy and aquaculture) to higher value markets compared to grain staples which farmers can easily sell locally and thus, do not offer sufficient returns to offset the organizational costs.<sup>86</sup>

Smallholders face many problems when dealing with the commercial realities of modern food supply chains. Development partners need to be cognizant and decisive regarding linkages if farmers or fisherfolk cannot meet the identified market demand. Project teams should start with detailed assessments of the buyers' requirements among target commodities in terms of quality, quantity, timing of delivery, etc. They need to critically assess the capacity of the target producers to meet those requirements and/or the time required to develop such capacity to ensure sustainable operations. Where farmer skills, resources and societal norms within the targeted community fail to meet those commercial requirements, either alternative products for those farmers need to be identified or, other more capable farmers have to be supported to supply the market demand. The bottom line is to avoid increasing the risk burden of smallholders.

A “pro-poor” project approach may not align with commercial realities. Business development is not synonymous with social policy; commercial requirements will likely override some equity concerns in order to be sustainable. Market-oriented farmers face difficulties to successfully enter more sophisticated but higher value markets (although the task for smallholder farmers in remote areas, with limited skills and finance, may be almost impossible). A number of studies has demonstrated that both marketing success and group performance

seem to improve with closer proximity to markets (e.g., peri-urban zones).<sup>87</sup> Businesses are likely to be more confident about linking with farmers if some have a demonstrated capacity to produce commercially. Thus, project interventions may be more effective by initially targeting better-endowed farmers before moving into other project areas.

86 Shiferaw, B., Hellin, J. and Muricho, G. (2011). *Improving Market Access and Agricultural Productivity Growth in Africa: What Role for Producer Organizations and Collective Action Institutions?* Food Security 3.

87 Santacoloma, P., Suárez, R. and Riveros, H. (2005). *Strengthening Agribusiness Linkages with Small-Scale Farmers – Case Studies in Latin America and the Caribbean*. Occasional Paper 4. FAO, Rome.



## Annex 2. Risks of Elite Capture

There is a possibility that collective action approaches to marketing will be subverted and deflected from its intended purpose due to the risk of creating and reinforcing an opportunistic rent-seeking elite (e.g., allocation of fishing licenses in public waters in Sindh and exploitation of smaller fisherfolk in coastal and inland waterways).<sup>88</sup> The risk of misappropriation of aid resources by unscrupulous leaders is aggravated when educated and well-connected persons usually with an urban background succeed in gaining access to leadership positions in village-level groups eligible for project support. These persons, acting as 'development brokers', have been quick to understand that the implementation of collective action has become one of the best means of procuring funds from the international community, negatively impacting non-elites or the project target beneficiaries.

Projects need to have competitive and transparent evaluation processes when assessing business proposals to mitigate outside interference and provide confidence to all grant applicants that their proposals are being evaluated fairly. The management of funds for project beneficiaries, while being the responsibility of the government, should be at arms-length of government agencies (i.e., through a non-government entity acting as the managing partner and which follows agreed governance procedures for assessing business proposals). The project can specify criteria limitations based on farmers' wealth, farm size, group size, cultivation level of certain crops, non-govern-

ment employment (full-time farmer), no political affiliation, etc. to avoid conflicts of interest.

The assessment process should include a verification visit by a project team member to the applicant's premises to check the validity of the proposal and that it meets the project's eligibility criteria. If the applicant meets all the criteria and presents a sound business case for investment, then an independent committee of public and private officials can be the final arbiter in the selection and allocation process of financial support. The successful applicant would sign a contract with a government partner to formalize the funding allocation.

If a project utilizes a producer group or lead farmer approach for linking smallholders to markets, then prominent community members may be democratically elected to leadership roles by group members or project beneficiaries. This raises the potential for the aforementioned elites to subvert project largess for their own purposes, to the detriment of other group members or project beneficiaries. Therefore, it is essential that the negotiation of the contract for financial support between the government and the group includes performance targets and results indicators for the release of funds. Equally important is to monitor key performance indicators and the allocation of project funds to the group or beneficiaries to determine whether the project's support is delivering equal benefits to all group members and target beneficiaries as agreed.

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88 Kanji, I. A. (2022).



# Annex 3. Current Options for Registering Producer Groups in Pakistan

Producer organizations would be owned and managed by their members, who would primarily be smallholder farmers (cultivating less than 10 ha). While producer organizations would be expected to generate financial surpluses (excess revenue over expenses) each year, profit maximization is not their motive; these organizations are non-commercial. In Pakistan, the options for registering producer organizations as legal entities are available under the Securities and Exchange Commission of Pakistan (SECP), as well as through provincial legal and regulatory frameworks.

**SECP:** Under the SECP, the most suitable option for producer organizations is to register as a public limited, but not-for-profit, company. At least three promoters need to contribute a minimum of Rs 200,000 and apply for a license of 'Associations with Charitable and Not-for-Profit Objects'. After receipt of this license, the promoters register the association as a public limited company under Section 42 of the Company Act 2017. Among other requirements, the rules and regulations for this legal entity require compliance with good governance aspects including fit and proper criteria for the selection of the promoters and the Chief Executive Officer, policies for governance and compliance, human resource management, capital expenditure, procurement, investment of funds, borrowing, determination and delegation of financial powers, whistle-blower

provisions, health safety and environmental issues, and transactions with connected persons. Companies registered under Section 42 are not allowed to pay dividends to its promoters. All other requirements of a public limited (unlisted) company regarding audited financial statements shall apply to Section 42 companies.<sup>89</sup>

**Cooperative Societies Act 2020:** Cooperative societies are supervised by the Registrar of Cooperatives within the Cooperatives Department of each province. The purpose for the formation of a cooperative society should be the economic interest of its members in accordance with cooperative principles. A cooperative society can be registered with or without limited liability. A producer's society would need to have a minimum of 50 members. The types of societies permissible under the Act are: (i) Resource (credit, goods and services), (ii) Producer (producing and disposing goods as a collective property), (iii) Consumer, (iv) Housing, and (v) General. Societies are allowed to pay dividends to their shareholders at a rate not exceeding 10 percent of revenue. For Resource and Producer Cooperatives, 25 percent of their net profit must be deposited into a reserve fund of the society.<sup>90</sup>

**Voluntary Social Welfare Agencies Ordinance 1961:** Each province has similar Social Welfare Agencies ordinances. A social welfare agency is registered with the Social Welfare Officers of the Social Welfare Directorate.

<sup>89</sup> <https://www.secp.gov.pk>

<sup>90</sup> <http://www.pas.gov.pk/uploads/acts/Sindh%20Act%20No.XXVIII%20of%202020%20.pdf>

Each agency needs to maintain financial records and publish an Annual Report. The report includes information about the general management of the agency, details of the nature and extent of the services rendered and, if possible, supported by figures, the program for the next year, and audited accounts. A copy of the Annual Report is submitted to the Registration Authority immediately on publication.

From the 3 current options described above for registering agricultural producer groups, registration with the SECP is recommended because:

1. It adheres to a stringent regulatory framework which is applied to all public limited companies.
2. It requires a high level of transparency and disclosure, therefore reducing the likelihood of financial fraud and misconduct.
3. It has effective capacities to regulate all private and public limited companies.

**Water User Association (WUA):** A WUA may be established under the On-Farm Water Management and Water User Associations Ordinance 1981 of the Government of Punjab if the majority of irrigators along a watercourse agree to associate in the reconstruction, maintenance or improvement of such watercourse. The irrigators will complete and submit an application to the Field Officer<sup>91</sup> in the prescribed manner. An association may be formed if 51 percent of irrigators of the watercourse are WUA members and the WUA maintains a bank account in a scheduled bank. The WUA will be registered as a corporate body in the name under which it is registered with perpetual succession and a common seal, with power to hold property, enter into contracts, institute and defend suits and other legal proceedings and to do all acts necessary for the purpose of conducting its functions.

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<sup>91</sup> "Field Officer" means and includes the Director of the On-Farm Water Management and Development Project, Department of Agriculture, Government of Punjab or any other officer declared as such by the government.

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