



USAID FIRMS PROJECT

Agricultural Marketing Policy Reforms - Balochistan

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Data Page

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Abstract:

Most produce from Balochistan is destined for consumer markets elsewhere in the country—primarily Punjab and Sindh. Recent reforms in the agricultural marketing policies in those provinces will open opportunities for Balochistan growers.

The Balochistan agricultural marketing law is another throwback to colonial times. Delivering produce to Quetta *mandi* for transfer to *mandi* in other provinces implies paying double commissions. Costs of marketing services, including cash advances to contractors and farmers, do not justify these fees, implying significant levels of privilege and rent seeking.

Only two *mandis* have been established in Balochistan. Therefore, the time is ripe to set the course before new *mandis* begin to operate under traditional market committees. Private management of markets is recommended to avoid the rigidities that have arisen in other provinces.

Four institutional levels are proposed for carrying out reforms in agricultural marketing: 1) Policy Formulation, 2) Coordination and Participation, 3) Technical and Regulatory, and 4) Implementation of Development Programs

Acronyms

BEE	Business Enabling Environment
CRCP	Consumer Rights Commission of Pakistan
FIRMS	Development Project financed by USAID
GLOBALGAP	A European System of Standards and Procedures to Ensure Quality
IPC	Investment Promotion Council
KPK	Khyber Pakhtunkhwa (KPK) Province
<i>Mandi</i>	Wholesale Marketplace
PHDEC	Pakistan Horticulture Development and Export Company
USAID	United States Agency for International Development
RMA	Rapid Market Appraisal or Assessment

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Executive Summary

The agricultural marketing laws of Pakistan have had a crippling effect on market development. The disconnect with the obligatory auction system prevents linkages needed to form value chains oriented toward specific market segments. Following the same traditional pattern, the Balochistan Agricultural Produce Markets Act, 1991 stresses control of products to collect fees and commissions. Legitimate marketing issues, such as quality, cold chains, market segments, business opportunities, value, hygiene, freedom from contamination, contracts, information, linkages, packaging, distribution, transport and labeling, are ignored.

One would hope that development of export market channels would provide the model for reforming and improving market systems within the country. Foreign buyers provide specifications such as size of fruit and carton, packing material etc. Quality is the first and foremost criteria required by importers. But the impact seems to be minimal. Because of restrictive policies, marketing of fruits and vegetables in the domestic market continues to be rudimentary. The product is delivered to the *mandi* for sale by auction with no prior arrangement to prepare it for a particular market segment or niche.

Yet there is ample evidence that high-end market segments in Pakistan offer opportunities for quality improvement. Per capita expenditure for fruits increases eight times from the lowest quintile of households to the highest while per capita expenditure for vegetables doubles from the lowest to the highest quintile. The significance of this comparison is to emphasize the opportunity of segmenting markets and tailoring products and distribution strategies to the needs of each consumer group. Business opportunities mean higher value obtained for products, implying higher income earning possibilities for farmers. Farmers and handlers of fruits from Balochistan are in a good position to take advantage of these opportunities.

Balochistan is the second largest producer of horticultural produce in Pakistan, specializing in orchard crops. Total production was valued at over 900 million US dollars in 2008/09.

The distinguishing feature of Balochistan agriculture is that most produce is marketed outside the Province, and does not pass through *mandis* in Balochistan. Fruit growers generally rely on pre-harvest contractors to get their produce to distant markets. However, there is still a need to modernize and develop provincial markets to promote backward integration with farmers through better linkages and value chain development, which will in the end help intra-country trade as well as foreign export. A new liberal policy should foment the formation of value chains oriented to better serve the needs of clients on the demand side of the market.

Stemming from earlier work initiated with support of the FIRMS Project, both Sindh and Punjab governments are moving toward privatizing wholesale market management. The Sindh Wholesale Agricultural Produce Markets (Development and Regulation) Act, 2010 encourages the corporatizing of market management. Meanwhile, the Chief Minister of Punjab has approved private parties to establish markets.

Establishing “private markets” has implications that go far beyond public or private management. Under new structure in both provinces, restrictions will be reduced. Fixed commissions by a privileged few will no longer be sanctioned. Arbitrary fees will not be collected by market committees. Service charges and staff requirements will be determined by participants in each market. Managerial decisions will be completely internal to each marketplace and will not be “prescribed”. Monopolies will not be protected. Instead, competition is to be encouraged. These reforms will open opportunities to suppliers of produce from Balochistan to market through value chains catering to specific market segments. As an

example, through an organized supply system, fresh products such as apricots or apples would be prepared and shipped differently for the open public market than for grocery stores in high-end neighborhoods.

Projected impacts will take the form of higher volumes of production and a greater percentage of products in better grades. Another important benefit that will be felt by farmers and consumer alike can be expected from efficiencies in wholesale marketing, resulting in improved services and reductions in wholesale margins. Costs of capital advances from commission agents comes to about 1.5 percent of the cost of the acquiring the product. The lion's share of the 18 percent spread is still unexplained except from the inefficiencies and rents implicit in the current system of marketing through *mandis*.

Improving wholesale market operations will lead to reductions in hidden costs to retailers and improved products to consumer. Benefits will be seen in higher value to consumers, reduced wastage and increases in consumption of fruits and vegetables. The cumulative impacts from these improvements in the system, from retail marketing through distribution and wholesaling to suppliers and farmers can reach 20 percent of the value of horticultural crops. Therefore, a rough projection of impact in Balochistan alone is around 180 million dollars.

A disclaimer must be made regarding risks that can jeopardize obtaining these benefits. While much of the country's agriculture is irrigated from gravity-fed systems, farmers in Balochistan depend on electrical power to drive tube well pumps for irrigation. Load shedding places a severe strain on horticultural production in the Province, and some farmers fear a total collapse in production if power supplies become even more limited.

Balochistan has the opportunity to avoid the pitfalls of applying restrictive agricultural marketing laws, especially as the Province has only two operating *mandis*. But nine more are under construction and soon a cadre of market functionaries will be appointed, creating rigidities set on maintaining control of an inefficient marketing system. The time is ripe to establish a progressive, open policy framework.

The organization of marketplaces is usually considered to be a public good, but in practice, increasing the role for public administration of *mandis* in Pakistan cannot be expected to generate positive results. The most expedient means of breaking with colonial tradition is a move toward private development of markets. Some of the concepts to be applied in formation of markets are the following:

- Tailor layouts to specific needs.
- Streamline the management structure.
- Promote gradual institutional development.
- Avoid rigidities of predetermined, fixed staff.
- Make revenue collection automatic.
- Investments to improve common infrastructure and facilities should be a continual process.
- While traders have "vote", other users should have "voice".

The four institutional levels proposed for carrying out reforms in agricultural marketing are: 1) Policy Formulation, 2) Coordination and Participation, 3) Technical and Regulatory, and 4) Implementation of Development Programs.

At the policy level, Provincial Government sets agricultural marketing policy, adopts rules and approves finances. In an advisory capacity an agricultural marketing board of Balochistan is

recommended to facilitate coordination among public entities, and participation of stakeholders. At the technical level, the Department of Agriculture (Marketing Wing) would provide crucial expertise, studies and information, and be responsible for market regulation and supervision. Finally an agricultural marketing corporation of Balochistan is proposed to carry out specific development programs, beginning with training of a new breed of professional market managers. Other activities that a public/private agricultural marketing corporation could assume are as follows:

- Promotion, including model designs and specifications for infrastructure
- Promotion of certifications, such as organic farming
- Business promotion
- Special branding: Nature's Orchard

With limited time frame FIRMS can focus on immediate actions to help each institution undertake specific activities. First FIRMS can help develop training programs with the agricultural marketing corporation. Simultaneously, FIRMS can help the Department of Agriculture carry out feasibility studies for new markets. Finally, again with the Department and the board, FIRMS can undertake a pilot study regarding pesticide usage and risk of contamination.

1. Background

The Balochistan Agricultural Produce Markets Act, 1991 is a throwback to a colonial paradigm where government control and restrictions on marketing of agricultural products were the norm. Fortunately, the Provincial Government of Balochistan has taken interest in modernizing its agricultural marketing policy framework, which led to a request for assistance of the FIRMS Project. The challenge of this consultancy was to draft a new policy and regulatory framework for the governance of agricultural markets in Balochistan that meets local needs and is consistent with international best practice. Particular attention will be placed on institutional arrangements required to make the reform process a reality.

1.1 Initial FIRMS Activities in Agricultural Marketing Policy Reforms

Recognizing the limitations that current policies place on the agriculture sector and the urgent need for action, FIRMS determined to include this important area in its initiatives for the Business Enabling Environment Component (BEE). For instance, earlier efforts by public authorities in Punjab to reform agricultural markets dating from 2005 met with frustration. Between April and June, 2010 an international agricultural economist carried out policy analysis and proposed adoption of best international practices for Punjab and Sindh, along with a reform matrix that distilled the recommendations. In August a legal advisor drafted modifications to laws and regulations for the two provinces. This team was strengthened with an additional consultant to carry out a Rapid Market Appraisal. At the same time, the Asian Development Bank was working to transform market management and invest in new physical facilities in target market areas.

The appraisal showed that current practice focuses on harnessing supplies and collecting commissions—directly affecting farm prices. Organization of marketplaces scarcely considers the process of satisfying different market segments and distribution through alternative value chains. The inefficiencies are passed on to retailers in the form of higher transaction costs due to time taken in purchasing and variations in quality that cause uncertainty in shelf-life. Wholesale markups average over 18 percent and another 30 to 50 percent markup is added from the retailers to final consumer. Even more importantly, the current framework holds back the development of value chains where products can be tailored to meet the requirements of buyers in different market segments. Value chains imply that market linkages pass signals from the consumer back through the chain to the grower.

BEE later subcontracted a survey to further strengthen evidence and arguments for policy reform. The survey, carried out by the Consumer Rights Commission of Pakistan (CRCP), confirmed that marketing margins (retail price in relation to net receipts of farmers) ranged from 23 to 86 percent. Commission agents operating in wholesale markets (*mandis*) confessed that no value addition takes place through their operations. Retailers add some value by sorting produce, but these efforts come too late in the supply chain to overcome the limitations of the system that virtually regards high value crops such as fresh fruits and horticultural as commodities.

The vast majority of traders, suppliers, retailers and wholesalers indicated that they do not participate in management of market operations. Interestingly, commission agents were also of the same opinion. Virtually all expressed ignorance about the current laws governing agricultural markets.

1.2 Summary of Progress Leading Up to Current Consultancy

Following the policy matrix, FIRMS developed policy and legal reforms with the agriculture departments and other authorities in Sindh and Punjab. Both Provincial Governments have embraced wide-sweeping policy recommendations.

FIRMS became engaged in the policy analysis process in Sindh just when a new draft law was entered into parliament. The Department of Agriculture and other authorities from the Province participated in identifying weaknesses and proposing further reforms. However, the bill was passed without amendment. The Sindh Wholesale Agricultural Produce Markets (Development and Regulation) Bill, 2010 primarily facilitates the participation of the private sector in market management. Although the law might have gone further in its scope, it lays the groundwork to facilitate implementation in several important areas. FIRMS is collaborating with the development of rules, such as valuation of assets and liabilities of market committees, registration of new companies, conducting auctions, and others. An independent Board will register companies and monitor market performance.

The Punjab Government has also sanctioned implementation of the policy reforms. The Chief Minister approved a change in rules allowing private parties to establish markets—a key measure with implications that go far beyond public or private management. Meanwhile, the government also recognized the need to place more emphasis on retailing. Five new public retail markets are under construction with four more planned. These solid actions demonstrate the determination of the Punjab Government to proceed with the reforms in anticipation of the passing of a new Act.

1.3 Scope of Work

The tasks to be carried out by the consultant for this assignment were as follows:

1. Review the agricultural markets of Balochistan and evaluate their performance.
2. Review agricultural marketing policies, laws and regulations of the Province.
3. Identify and detail the deficiencies and distortions in the provincial policies, laws, and regulations.
4. Estimate the economic impact of such deficiencies/distortions.
5. Draft an international best practice agricultural markets policy including recommended regulatory framework, business processes and institutional set-ups consistent with fair, efficient, growth-oriented agricultural markets.
6. Identify the capacity building needs of the provincial agriculture department and other relevant institutions in light of the policy and legal reform agenda proposed.
7. Identify down-stream FIRMS Project actions that will strengthen/support the agricultural markets system of the Province.

The initial Scope of Work included Balochistan as well as the Khyber Pakhtunkhwa (KPK) Province. However it was clarified early on that the assignment would only cover Balochistan. Inclusion of KPK in the market reform initiative may require additional effort at a later stage under the aegis of the proposed Investment Promotion Council (IPC).

The FIRMS team responsible for the assignment included Senior Policy Advisor and Head of the Business Enabling Environment (BEE) component, Mr. Suleman Ghani, and BEE liaison Mr. Azim Azfar. Dr. Muhammad Saeed was responsible for collecting information for the Rapid

Rural Market Appraisal (RMA). Mr. Nayyar Agha was liaison between the FIRMS office, the RMA, the Balochistan Government and the international advisor. The consulting assignment was carried out between July 1 and October 15, 2011. Responsibility for this report lies with the international consultant in Agricultural Marketing, Dr. Preston S. Pattie.

The following section points to the importance of horticultural crops in Balochistan and summarizes findings of the Rapid Market Appraisal for the Province. The appraisal included 1) fruit growers, 2) onion and tomato growers, 3) pre-harvest contractors, 4) commission agents in the Quetta *mandi*, 5) commission agents in destination markets such as Lahore and 6) produce exporters from Balochistan. Finally the appraisal touched on the management and operations of the Quetta *mandi* with interviews of commission agents, Market Committee members and the Department of Agriculture.

Section III confirms the importance of emerging business opportunities in developing agricultural markets as policy reforms become more widespread. Section IV carries this paradigm further by quantifying the overall impact that can be expected from the implementation of policy reforms. Analytical details are found in Appendix A.

Section V puts forth an agricultural marketing policy framework for consideration of the Balochistan Provincial Government and proposes proactive roles for the Provincial Department of Agriculture and development institutions. Appendix B shows a sample business plan paraphrased from a case in South America. Appendix C provides general ideas on alternative market layouts. Finally Section VI suggests downstream support requirements appropriate for the FIRMS Project. Appendix D provides a reform matrix that distills the policy recommendations into a stepwise process.

2. Agricultural Marketing in Balochistan

Balochistan is the second largest producer of horticultural produce in Pakistan, specializing in orchard crops. Leading fruits are dates, apricot and apple followed by plums, almonds and grapes. The chart below derived from national statistics of the Ministry of Food and Agriculture (Economic Wing) shows total production over one million tons in 2008/09 valued at 677 million US dollars. Most produce is destined for markets in Sindh and Punjab, and does not pass through *mandis* in Balochistan.

Table 1 Balochistan Fruit Production, 2008-2009

Fruit Production, Balochistan 2008-09		
	Production	Value
	(metric tons)	(US Dollars)
Citrus	8,407	2,914,146
Mango	8,541	4,607,170
Banana	5,726	1,250,450
Apple	306,534	113,696,239
Grapes	74,758	31,745,355
Pomegranate	43,604	29,250,312
Guava	3,718	1,844,033
Dates	248,594	181,414,557
Apricot	218,601	181,342,972
Peach	25,362	18,567,791
Plums	35,128	56,698,307
Almond	25,588	54,180,986
TOTAL	1,004,561	677,512,319

Fruit growers generally rely on pre-harvest contractors to get their produce to distant markets. By selling to contractors several risks are avoided, such as low production due to load shedding or epidemic diseases late in the season, and difficulty in shipping to distant markets due to flood hazards or civil unrest. Also, sometimes the low price at the final destination due to glut in the market can result in heavy losses.

Harvesting, grading and packing of fruits become the responsibility of the contractor, along with controlling insect/pests which appear during the contracting period. Proper grading and packing helps preserve uniformity and quality. Over packed produce deteriorates the quality of product during transport and storage. If contractor is able to engage professional skilled labor for grading and packing income can be increased.

A few larger farmers sell directly to distant markets, without using pre-harvest contractors. One grape farmer obtains boxes and crates in Quetta and engages skilled Afghan refugees who settled locally. A large apple grower also packs in his orchards for sale to distant markets. He

surveys market conditions and deals with up to six different commission agents in as many cities before determining the best place to sell. Naturally, he avoids accepting cash advances from commission agents in order to keep his options open, as a cash advance would bind the farmer to sell to a particular commission agent. Capital requirements are therefore more demanding on the part of the farmer. Both growers also indicated that extra skill is required to develop a relationship of trust with commission agents at distant markets.

Some fruit growers also sell to the Quetta *mandi*. A commission agent from Quetta explained that he sends the grade "A" grapes, (if packed in cartons instead of wooden crates) to other commission agents in Karachi, Sukkur, Multan, D.G.Khan, Gujranwala and Lahore. Only a small part is auctioned in local market at Quetta. However, channeling through the Quetta *mandi* and then through a *mandi* at distant markets implies that the 7 percent commission charged in Quetta is added to the 10 percent commission charged in distant markets.

Most growers are small and not able to undertake the rigors of handling and marketing highly perishable products such as fruit. Capital is also a limiting factor. When selling fruit to contractors, the norm is to receive advance payments. Contractors explained that dealing with growers depends upon the condition of crop which varies from village to village and year to year. The contractor first ascertains the condition of crop--heavy bearing or medium bearing. Besides the overall management of orchards, other factors considered include availability of irrigation water during the contract period, access to main roads, availability of skilled and seasonal labor and above all the integrity of grower. A total value for the orchard is agreed upon along with a schedule of payments to the farmer, typically like the following:

- First Installment 1/3 at fruit set
- Second Installment 1/3 at beginning of harvest
- Third Installment 1/3 on final shipment

While some contractors utilize their own funds, most obtain resources from commission agents of Quetta, Karachi, Lahore or wherever they sell produce. One contractor explained that without loans from commission agents, it would have been difficult to be in a business, especially due to risks caused by load shedding, road blockage and floods.

There are no fixed rules for recovering advances. Ideally the amount of loan is deducted at the time of first consignment. If the produce reaches the market early in good condition, the whole amount may be recovered. Otherwise, the remainder is repaid in the second consignment.

A typical example of disbursement and recovery of cash advances is as follows:

- A contractor purchases an orchard of Zarith apples for 7.5 million Rupees. He pays 2.5 million on April 30 just as fruit is set. On July 31, he pays another 2.5 million when early apples are harvested. Both payments are made with funds advanced to him by a commission agent.
- Funds required to harvest, pack and ship are from the contractor's own resources.
- He delivers most of the apples in August and September. His total sales to the commission agent in Multan are 12.0 million Rupees. Five million have already been advanced. Another 3.0 million is paid to the contractor around the end of September and the final 4.0 is paid end of October.
- With the last shipment on Oct 31, the contractor pays the final 2.5 million to the farmer.

The costs associated with advancing funds to producers can be divided into two categories: 1) opportunity cost of capital and 2) risk. Opportunity cost refers to the alternative uses that could

be made of funds, such as to purchase a truck, adding on to a dwelling, paying for education of children, or purchase farmland. Putting sufficient funds aside for making advance payments to farmers must be attractive enough to compete with alternatives of this kind. Basically the return must be sufficient to draw funds away from consumption goods and services toward productive investments—and among productive investments, the ones with highest returns receive priority.

Secondly, the risks of extending advances over large distances to multiple actors can be great. Most pre-harvest contractors and commission agents relate situations where a portion of advance funds were not repaid, for a variety of reasons, mostly related to natural disasters such as drought and floods. Losses can sometimes be very great, and recovery slow or even impossible. For instance, commission agents both at Lahore Market and Quetta Market complained about the new breed of contractor that has recently immigrated from Afghanistan. They do not own property like orchards or vegetable fields and they are low on capital compared to local contractors who were in business since the time of their forefathers and who own property in villages in Balochistan. Commission agents said that these new contractors do not send all their produce to him, but to other markets on the way or straight to Karachi and Sukkur Markets. In such cases, the contractor requests extending the period for loan recovery. Several commission agents from Lahore have entered into partnerships with commission agents of Balochistan just to recover loans from contractors in default. To cover costs of capital, a fair return is required.

Under scenario above, the amount of capital extended by the commission agent to secure the supply of apples is 2.5 million for about 4 months (May-August) and 2.5 million for 2 months (July-August). The cost of this capital could come to nearly 200,000 Rupees, or 1.5 percent of the value of the product—which is handily recovered through the 10 percent commission that yields 1.2 million Rupees for handling 12 million worth of apples.

Table 2 Balochistan Vegetable Production, 2008-2009

Vegetables and Condiments, Balochistan 2008-09		
	Production	Value
Vegetables	(metric tons)	(US dollars)
Lady Finger	16,710	6,956,804
Tinda	2,864	713,857
Brinjal	8,348	2,034,297
Tomato	62,365	16,753,361
Radish	26,269	5,221,129
Turnip	20,758	4,799,193
Carrot	54,431	16,522,055
Cauliflower	44,083	11,879,828
Peas	14,701	6,721,895
Potato	34,608	5,991,108
Condiments		
Chillies	6,179	6,469,068
Onion	607,015	145,867,830
Garlic	5,995	3,600,032

Vegetables and Condiments, Balochistan 2008-09		
TOTAL	904,326	233,530,454

Vegetable production in Balochistan includes a wide array of crops--beginning with tomato--while condiments are dominated by onion. In fact onion accounts for over half the total. Total volume of vegetables and condiments is almost as large as fruit crops, but the value is lower, coming to about 233 million US dollars.

In contrast to fruits, vegetables are not usually sold to contractors. Instead growers from Balochistan send tomato and onions to directly commission agents in Quetta and other provinces. Commission agents dealing in vegetables such as onion and tomato provide cash advances directly to farmers. Several commission agents in Lahore indicate that relations with farmers were easily established because they originally came from Balochistan. In one case, relationships with growers of Balochistan were established from the time of independence. In other cases, when the business started, relations were brokered by mutual friends who were growers in the vicinity.

For instance, loans to tomato growers of Harnai are given in December and to growers of Quetta in February March. About 30 percent of the loan is given for seeds/seedlings, fertilizers and other agro chemicals; 20 percent is provided if requested by the grower for purchase of crates, cartons and packing material and also to bear the cost of transportation from Harnai or Quetta to distant markets. Land preparation, planting, irrigating, weeding, inter culturing and harvesting are the often the responsibility of sharecroppers. Sharecroppers receive 1/3 of net income after discounting direct costs associated with growing the crop.

Again there are risks associated with recovery of advances from commission agents to growers. Most growers have established credibility in paying the advance during the season. However, commission agents in Lahore complained that some growers, instead of sending produce to Lahore market, divert some of the produce to Multan and Faisalabad. As such, a portion of the advance remains pending and the commission agent tries to recover it the following season.

Farmers indicate that to harvest and ship onion in gunny bags requires little extra capital or expertise. But experience and knowledge of dealing with commission agents in distant markets is essential. Both growers as well as commission agents agree that growing onion is a gamble. Sometimes when the crop is ready for market, onions are imported from Iran. Last year onion growers in Balochistan got good prices as there was shortage of onion. There was no import from Iran and the crop of Sindh was damaged due to severe flooding. An onion grower complained that last year the commission agent did not share gains he earned due to high price with growers; whereas when the crop is sold at a low price the commission agent does not bear the risks. Only those farmers that are ready to take risks grow onions. Most diversify with other crops or off farm sources of income.

Farmers are knowledgeable about market channels, indicating that various actors are involved in the market chain. Farmers or contractors supply the commission agent at the *mandi*. Produce is put in different lots according to size and quality. A commission agents or his representative auctions the fruit early in the morning and charges commissions varying from 7 percent in Quetta Market to 10 percent in distant markets. The grower can be present for the auction or can follow through telephone contact. The grower is informed about the price and funds are deposited in the bank. Wholesalers bid for the produce and retailers buy in small lots from the wholesaler. Retailers are mostly shopkeepers and streets vendors from carts.

Despite this detailed knowledge, farmers indicate that they do not have any contact with the end users. No feedback is received by anyone for improving production. One grower believes that

his grapes might be exported to another country most probably to Bangladesh, but he is not certain.

Contractors occasionally get feedback on non-formal basis from wholesalers and commission agents about the quality of produce supplied to local and distant markets. One contractor tried to improve packing material according to indications of a commission agent, but it was unclear what market segment was being served.

Commission agents state plainly that they have no responsibility for improving production or handling practices. They can only suggest to the grower/contractor to improve grading or reduce the size of carton to minimize damage in transport and handling.

Policy Issues identified

The Balochistan Agricultural Produce Markets Act, 1991 is not an agricultural marketing law. Instead it provides for control of products to collect fees and commissions—extra taxes that fall primarily on farmers—under the guise of market regulation. No wonder marketplaces in most provinces with this kind of legal framework are in shambles with little attention to infrastructure and management. Agricultural marketing should focus on quality, cold chains, market segments, business opportunities, value, hygiene, freedom from contamination, contracts, information, linkages, packaging, distribution, transport, labeling, and such. None of this is mentioned in the Balochistan law or similar traditional laws in other provinces in Pakistan.

Specific observations regarding the Balochistan Agricultural Produce Markets Act, 1991 are:

- Preamble: To provide for better regulation and establishment of markets in Balochistan. But most products from the Province do not pass through local markets. They are “exported” from Balochistan to other provinces or countries.)
- Article 3: Gives government authorization to exercise control over purchase and sale. (Does not mention government’s role in promoting and facilitation to improve quality, hygiene, freshness, freedom from contaminates, truth in labeling)
- Article 4 (3): No person shall use any place for purchase or sale produce except under license. A severe restriction that restricts initiatives to develop value chains.
- Article 9 (2) and (3) Market Committee licenses functionaries and restricts. Creates another level of rigidity and extra cost.
- Article 16 (2) says government may constitute a cadre of employees. This cadre becomes a stakeholder that protects its interests above all—resisting change to open marketing systems.
- Article 19 authorizes fees from processors and others that do not utilize the *Mandis*. Shows the clear emphasis on revenue collection, rather than improving services.
- Article 23 trade allowances prescribed. Orients the system toward control of larger volumes of produce (supply-driven), rather than competing for customers based on quality and services (demand-driven).
- Article 35 (v) Government rules may cover time, place and manner for contracts between buyer and seller and money paid, (x) trade allowances, (xxii) conditions of service and grades of pay. Auctions become the only means of transactions, eliminating market linkages between end-users and farmers.
- Article 36 (i) Bye-laws may regulate business and (ii) conditions of trading plus (iv) remuneration of functionaries. Priority on interests of market functionaries, rather than interests of farmers and consumers through improving marketing system.

The agricultural marketing laws of Pakistan have had a crippling effect on market development. The disconnect with the obligatory auction system prevents linkages needed to form value chains oriented toward specific market segments. Auctioning a product implies that the grower first produces and then offers his product to potential buyers, rather than establishing a prior relationship to provide what specific buyers need for their clients. There is some effort to sort produce for different market segments from whatever is made available in the market. But prior arrangements that could improve practices from the field through harvest and handling are excluded.

Examination of the marketing system described above reveals a fully supply driven orientation. The commission agent seeks to tie up ever greater quantities to gain commissions of 7-10 percent. The costs of handling and auctioning plus opportunity cost of capital advanced to farmers do not justify the sizeable marketing margins charged on the value of produce delivered to the market. The excess is unjustified rent. Section IV provides estimations of the costs of these rents and inefficiencies and the gains that can be expected through reforms in agricultural marketing in Balochistan.

Several traders and large farmers from Quetta have begun export sales just in the past few years. Most are expanding to further markets, primarily in middle-eastern and Asian countries. For example, one exporter deals with Iran and Afghanistan and is planning to sell to Tajikistan and Turkmenistan via Afghanistan and to Azerbaijan through Iran. Another exporter started his business exporting apples and grapes to Bangladesh and Malaysia in 1999 and to Dubai in 2009. A third sells to United Arab Emirates, Sri Lanka and Bangladesh.

Foreign buyers in countries like Iran provide specifications such as size of fruit and carton, packing material etc. Quality is the first and foremost criteria required by importers. Shipments of fruit are randomly checked on arrival. The buyer verifies size of the fruit ordered, free from blemishes, diseases etc. If the fruit delivered is not of the desired quality, it is not accepted. Instead, it is destroyed there and the exporter is liable to pay the damage. As the exporter or his representative is usually present when the consignment arrives, issues can often be sorted out. Some exporters have representatives temporarily residing in Tehran to look after deliveries of shipments and to receive payment.

Curiously, no mention is made by exporters about controls or concerns on pesticide residues or other possible contaminants. Even more surprising is the apparent lack of phytosanitary restrictions to protect importing countries from plant diseases and pests that might originate in Pakistan. This is especially curious in the case of Iran where importation procedures are more formalized, compared to exports to Kandahar, Afghanistan, for example.

Growers indicate that they are aware of the health problems related with the use of pesticides. However, no measures to safeguard against pesticide residues on products are in practice. One said he is aware through media about the risks, but does not know of a facility for determining the pesticide residual on fruits. Another grower uses safety measures and educates workers engaged in spraying operation. He purchases gloves, eye protection glasses and protective clothing.

One would hope that development of export market channels would provide the model for reforming and improving market systems within the country. But the impact seems to be minimal. The next section on emerging business opportunities discusses some of the possible reasons.

3. Emerging Business Opportunities

Balochistan has great potential of growing deciduous fruits and vegetables of high quality. The Province has an advantage in exporting products to Iran and Afghanistan which are connected by roads. Grapes and apples are being shipped to Bangladesh, United Arab Emirates and Saudi Arabia. Reforms in agricultural markets throughout the country will create opportunities for producing regions of Balochistan. As policy reforms are implemented and more emphasis to define and serve different segments of the market becomes the norm, value chains working through different channels will emerge—stretching from the consumer in Karachi to the farmer in Balochistan.

3.1 Reforms in Produce Marketing Already Underway

These reforms are already being felt in some parts of the country. Both Sindh and Punjab governments are moving toward privatizing wholesale market management. Establishing “private markets” has implications that go far beyond public or private management. The Sindh Wholesale Agricultural Produce Markets (Development and Regulation) Act, 2010 encourages the corporatizing of market management.¹ The Chief Minister of Punjab has approved a change in Rule 67-A allowing private parties to establish markets.

Under new structure in both Provinces, restrictions will be reduced. Fixed commissions by a privileged few will no longer be sanctioned. Arbitrary fees will not be collected by Market Committees. Service charges and staff requirements will be determined by participants in each market. Managerial decisions are completely internal to each marketplace and will not be “prescribed”. The Punjab Department of Agriculture indicates that monopolies will not be protected. If a proposal is submitted to establish an additional marketplace where others are already operating, it will be considered and approved.² Competition is to be encouraged.

Despite the loss of monopoly power and privilege, six proposals to form private markets in Punjab have already been received from developers and commission agents. Especially in the case of land developers, the Punjab Department of Agriculture provides guidance on how to design a market and what services are required. The Department proposes a model market layout where the central facility will accommodate grading and packing. Trucks deliver produce and trucks are dispatched to other distant markets. Also smaller vans will deliver to local retailers. This means that some dealers are expected to evolve into wholesalers/distributors that would supply shops, restaurants, supermarkets and other retail outlets.

So far, proposals contemplate common areas with multiple traders, each with individual, private shops. However the Government hopes to receive proposals to establish markets where only one dealer is active--a warehouse or private facility set up to receive product for sorting, packing, cooling, re-shipment or distribution.

These initiatives are far-reaching and will certainly change the way agricultural produce is handled throughout the country. In particular, these reforms will open opportunities to suppliers of produce from Balochistan to market through value chains catering to specific market segments.

¹ The auction system is however retained, which is a key bottleneck to development of value chains.

² Conversation with Mr. Mian Munir Ahmad, Director, Punjab Institute of Agricultural Marketing

These changes are just beginning and can be expected to lead to a steady expansion of private markets gradually reforming the traditional system of *Mandis*. Instead of harnessing larger volumes in the supply chain, dealers will see the need to compete for clients. Behavior will adapt to a demand driven approach.

Another key finding stressed in the 2010 report on agricultural marketing policy was that retail marketing had not received the required attention in Pakistan. Now, five of nine Divisions in Punjab are in the process of constructing retail markets. The remaining four are in the planning stage. The Government of Balochistan is also developing a farmers market in Quetta. Initiatives such as these can offer a greater array of options for consumers and farmers.

Perhaps even more significantly, local investors in Lahore have begun to form larger groceries (or small supermarkets) either singly or in chains of 2-4 stores, up to now. Many will feature fruits and vegetables. This sudden initiative has not received direct support of the government, yet the timing corresponds to the liberalization of agricultural marketing—and cannot be purely coincidental. Supermarkets have evolved into a major channel for groceries and other consumer goods in many countries with similar income levels as Pakistan. Fresh produce sometimes occupies a small part of floor space at the outset, as consumers still find better options at open public markets or carts near their homes. But as suppliers adjust to the opportunity of delivering more uniform, quality products in attractive packaging with longer shelf-life, supermarkets offer an increasingly attractive option.

3.2 Market Segmentation

The table below provides ample evidence of the extent of high-end market segments. Per capita expenditure for fruits increases eight times from the lowest quintile of households to the highest. This dramatic change in consumption habits occurs while household expenditures per month increase only by a factor of three, and percentage spent on food declines from 55 to 33 percent. Per capita expenditure for vegetables doubles from the lowest to the highest quintile.

Table 3 Per Capita Expenditure on Fruits & Vegetables

Per Capita Expenditure on Fruits and Vegetables for Two Market Segments			
	Unit	Poorest 20%	Richest 20%
Average Consumption Expenditure per Household	Rupees/month	7,485.00	19,866.00
Food as % of total expenditure	Percent	55.6	33.1
Average Household Size	Persons	8.6	5.0
Expenditure per capita for:			
Fruits	Rupees/month	8.84	72.48
Vegetables	Rupees/month	44.93	89.74
Source. Derived from the Household Integrated Economic Survey, Federal Bureau of Statistics, Pakistan 2007-08			

The significance of this comparison is to emphasize the opportunity of segmenting markets and tailoring products and distribution strategies to the needs of each consumer group. Business opportunities mean higher value obtained for products, implying higher income earning possibilities for farmers. Farmers and handlers of fruits from Balochistan are in a good position to take advantage of these opportunities.

3.3 Export Opportunities

Another area for market expansion can be found in foreign markets, especially those with more formal marketing channels reaching high-end consumers. While total exports from Pakistan increased at a rate of 2 percent for the two-year period from 2006-07 through 2008-09, exports of horticultural crops increased by 15 percent per year over the same period. Exports of fruits led at a rate of 18 percent per year, while exports of both vegetables and spices grew by an average of 16 percent each year. During the same 2-year period, exports of fruit and vegetable juices posted a modest decline from 18 to 16 million dollars per year.

Among fruits, kinno was the largest item in 2008-09 at 45 million US dollars, with dates a close second at 41 million. Mango was third among fruit crops at 29 million US dollars. In the two years from 2006-07 to 2008-09, fruit exports grew by 43 million with kinno in the lead, followed by mango.

Among vegetable crops, potato was the largest in volume and value in 2008-09, and also the crop that posted the largest growth during the previous two years. Details in the table below show that exports of fruits, vegetables and spices were valued at over 278 million dollars. Some observers suggest that these categories could increase to over a billion dollars in future years.

While one hopes that increasing competitiveness of Pakistani products for formal export markets will have a positive impact on value chains for domestic markets, the axiom generally known by agribusiness firms and market experts is the other way around. Building an export industry is facilitated by a base in the domestic market. The weaknesses in Pakistani market systems that inhibit development of value chains undoubtedly limit the competitive position of Pakistani exports of horticultural crops. Marketing of fruits and vegetables in the domestic market is rudimentary. The product is taken to the *mandi* for sale by auction with no prior arrangement to prepare it for a particular market segment or niche. Pesticide regulations and concerns about other sources of contamination receive little priority.

About 20 companies in Pakistan are working toward compliance certification for GLOBALGAP. This is a major step to take all at once, without first developing solid value chains for domestic markets. Usually industries mature in stages, improving products gradually to meet ever more rigid standards. In this case, farmers and handlers are expected to run before learning to walk. A statement from a FIRMS report on mango exports exemplifies this point:

The pre-harvest contractor and commission agent play a pivotal role in mango trade in Pakistan. The latter advances money directly as well as thru the contractors to farmers. By doing so he obliges them to sell produce thru him. He is therefore considered as 'king pin' in the trade. While this facilitates the trade, it is counterproductive for linking farmers directly with the exporters and promoting growth for export, especially compliance to emerging international trade requirements on sanitary & phyto-sanitary measures."³

³ Mango Marketing Strategy, Pakistan Horticulture Development & Export Board, April 2005 (page 14)

Table 4 Export Numbers for Horticulture Crops

Exports of Horticultural Crops, June 2008-July 2009			
	Volume Exported	Value Exported	Rate of Change In Value (a)
	(Metric Tons)	(USD 000)	
FRUITS, VEGETABLES AND SPICES	920,074	278,554	15%
FRUITS	465,869	157,182	18%
a) KINO	176,745	45,472	18%
b) ORANGES	-	-	-100%
c) APPLES	2,278	854	119%
d) MANGO	73,437	29,491	22%
e) DATES FRESH	4,471	3,298	-17%
f) DATES DRIED	107,244	41,313	11%
g) FRESH FRUITS N.S.	3,804	1,903	-49%
h) FRUITS,DRIED,MIXTURE OF NUTS	2,679	14,482	72%
i) OTHER FRUITS	95,211	20,369	41%
VEGETABLES	424,790	72,919	16%
a) POTATOES	315,321	41,635	20%
b) ONION	32,896	5,407	87%
c) OTHER FRESH VEGETABLES N.S.	11,461	5,015	-24%
d) MUSHROOM GENUS AGARICUS DRIED	17	2,245	-46%
e) GARLIC	766	288	-39%
f) OTHER VEGETABLES	64,329	18,329	64%
FRUIT & VEGETABLE JUICES	15,601	15,956	-5%
SPICES (Including Chillies)	13,814	32,497	16%
(a) Refers to annual rate of change in value exported over two years, from 2006-07 through 2008-09			
Source: From AMIS.PK, filename exp_summ			

A positive development is the Star Farms initiative in Punjab, where a non-profit company set up by Metro with the help of the Punjab Government is providing training to Pakistani farmers, packers, transporters and other members of the supply chain to attain international certifications for export to high-end markets in Europe.

Certifications such as organic farming may become important for some segments of the domestic market. For a country with more than 185 million people and a strong agricultural sector, it is surprising that a market segment for organic products has developed. This will change as special programs begin for different market segments.

Again taking the example from the mango study:

“There is generally a large price differential between good, average, and poor quality mangoes on the domestic as well as the export markets. Customers are becoming increasingly selective for high quality fruit. Customers are now looking to products safe to eat and less chemical prone during pre and post-harvest operations.”⁴

As the policy reforms take hold throughout the country, more direct marketing of agricultural produce can be expected. Private market facilities will expand, signifying business opportunities for wholesalers, distributors and suppliers. As market linkages improve, farmers will feel the impact from market pull.

⁴ Ibid.(page 17)

4. Impact Analysis Revisited

An earlier FIRMS report by the same author⁵ suggested that impacts of agricultural marketing policy reforms could reach 20 percent of the value of horticultural crops in Punjab and Sindh. Further analysis from the view point of Balochistan, a Province that primarily ships produce to other parts of the country, reaffirms previous assertions.

Indications of expanding business opportunities resulting from policy reforms already underway in Pakistan provide ample evidence of the significant economic benefits that can be expected over the next few years. It is apparent that the more widespread the reforms throughout the country, the greater the impact will become in any given region. The benefits can be visualized in three general categories:

1. Higher farm gate value of horticultural products
2. Increased efficiency in wholesale marketing
3. Greater value to consumers
4. Each of these three categories is explained in more detail below.

Higher Farm Gate Value

Markets for high value, perishable produces like fresh fruits and vegetables revolve around quality and wholesomeness. Quality involves much more than simply consumer satisfaction with taste texture; it includes aspects such as reliability of supply, uniformity, predictable shelf-life, labeling, appearance, and others. Besides visible aspects such as freedom from damage, wholesomeness also includes freedom from harmful chemicals and contamination. Consumers are not capable of detecting these aspects, and therefore rely on responsible suppliers and government to protect their interests and well-being.

The key to obtaining desired quality lies in developing close market linkages throughout the value chain. Linkages imply that dealers and contractors work with farmers to obtain produce suited to different market segments—both domestic and foreign. Under current laws in Pakistan, these linkages are broken at the *mandi* when the commission agent auctions the product. Buyers and sellers come together only at this late stage in the production/marketing chain. Buyers have no means of communicating their needs to suppliers throughout the process of production, harvesting and handling. Developing ties between buyers and suppliers—farmers, pre-harvest contractors or others—to organize delivery of products according to the needs of each client is precisely what the market system should promote. As an example, through an organized supply system, fresh products such as apricots or apples would be prepared and shipped differently for the open public market than for grocery stores in high-end neighborhoods.

The right signals from the demand side stimulate supply responses in terms of both quality and volume, where the farmer obtains higher revenue from his efforts. Responding to needs of consumers in different market segments with the right product increases value to suppliers. Projected impacts will take the form of higher volumes of production and a greater percentage of products in better grades. A general projection of the increased value or impact that might be in the order of 10 percent.

Increased Efficiency

⁵ Provincial Agricultural Marketing Policy Framework, USAID Pakistan FIRMS Project, 18 June 2010

Another important benefit that will be felt by farmers and consumer alike can be expected from efficiencies in wholesale marketing, resulting in improved services and reductions in wholesale margins. Commission agents especially recognize that the services offered in the *mandi* add little value to the product. *Mandi* operations in major markets are frequently chaotic, congested and unhygienic. Retailers receive product of mixed grades, often requiring additional sorting before offering to consumers. These limited services do not justify the margins currently charged that oscillate typically around 18 percent in *mandis*.

To further complete the analysis and understanding of market processes, the Rapid Market Appraisal carried out in Balochistan looked at capital costs associated with advance payments to farmers, which are recovered through commissions that become part of marketing margins in *mandi* operations. Commission agents often advance funds to directly to farmers or through pre-harvest contractors. Relationships are based on prior experience, trust, and mutual interest. The first advance payment typically covers 1/3 of pre-harvest price paid to farmer. The contractor normally covers costs of harvesting, packing and transport from his own resources. The second payment to the farmer made at the beginning of harvest may also come from commission agent advances. Given that scenario, costs of capital advances from commission agents comes to about 1.5 percent of the cost of the acquiring the product. The lion's share of the 18 percent spread is still unexplained except from the inefficiencies and rents implicit in the current system of marketing through *mandis*.

With the reforms, processors and others that do not utilize the *mandis* or wholesale facilities will no longer pay fees. That is, fees will not be collected when there are no corresponding services. Direct marketing to more public retail markets, including farmers markets and grocery store chains can be expected. Direct marketing implies development of various kinds of suppliers and the establishment of distributors operating in and near wholesale market facilities. These would operate in a similar manner as distributors of non-perishable goods currently operating in Pakistan—generally referred to as “stockists”. Improved services and lower marketing margins can be expected in competitive operations of private markets. Value chains developed for export markets—which are demand driven by nature--complement those expected in domestic markets.

Because commissions and fees are currently charged on produce supplied to *mandis*, farmers will be the first to feel a positive pull in terms of better overall prices offered. Eventually, as supply responds to these signals, benefits from greater efficiency in the marketing system will primarily be carried forward to consumers in the form of lower prices. As shown in the previous section, a corresponding increase in consumption of horticultural crops, especially fruits, can be expected at all income levels. The magnitude of this positive impact is projected to be in the order of five percent of the value of horticultural products.

Greater Value to Consumers

Finally, improving wholesale market operations will lead to reductions in hidden costs to retailers and improved products to consumer. Retailers in large terminal markets such as Lahore and Karachi face a myriad of difficulties in obtaining daily supplies of fruits and vegetables from congested *mandis*. Improving operations in the marketplace will make it easier to purchase desired goods from wholesale markets, without unnecessary expenditures of time and money. In a demand driven system, most sorting and grading are carried out earlier in the production and handling chain, resulting in less wastage in final stages. With uniform products delivered according to market segment and client requirements, problems from purchasing mixed quality in each box or crate will be reduced. Benefits of perhaps 5 percent will be seen in higher value to consumers, reduced wastage and increases in consumption of fruits and vegetables.

The cumulative impacts from these improvements in the system, from retail marketing through distribution and wholesaling to suppliers and farmers can reach 20 percent of the value of horticultural crops in Pakistan, estimated at over four billion dollars today. (See table.) Therefore, the total anticipated impact of agricultural market reforms is projected to be in the order of 800 million dollars.

Table 5 Value of Horticultural Crops in Pakistan,

Value of Horticultural Products, 2008-09					
	Balochistan	Punjab	Sindh	Khyber Pakhtunkhwa	PAKISTAN
	(US Dollars 000,000)				
Fruit	678	1,423	362	219	2,680
Vegetables	78	803	39	63	983
Condiments	156	83	322	4	565
Total Horticulture	911	2,309	723	286	4,229

Value of fresh produce from Balochistan comes to over 900 million. Therefore a rough projection of impact in this Province alone is around 180 million dollars.

A disclaimer noted in Section II of this report is worth repeating here regarding risks that can jeopardize obtaining these benefits. While much of the country's agriculture is irrigated from gravity-fed systems, farmers in Balochistan depend on electrical power to drive tube well pumps for irrigation. Load shedding places a severe strain on horticultural production in the Province, and some farmers fear a total collapse in production if power supplies become even more limited.

Finally, the reader should note that estimates vary from different sources on the value of horticultural crops in Pakistan. The figures shown in this report were derived primarily from Fruit, Vegetable and Condiments Statistics of Pakistan, 2008-2009. Government of Pakistan, Ministry of Food and Agriculture (Economic Wing), Islamabad, December 2009. Appendix A provides details on the methodology applied.

5. Proposed Policy Reforms & Institutional Roles

Balochistan has the opportunity to avoid the pitfalls of restrictive agricultural marketing laws. To implement an open, liberal policy, effective government leadership must focus on issues of public concern—including public safety—while promoting private sector operation of commercial activities.

The four institutional levels proposed for carrying out reforms in agricultural marketing are: 1) Policy Formulation, 2) Coordination and Participation, 3) Technical and Regulatory, and 4) Implementation of Development Programs. At the policy level, Provincial Government sets agricultural marketing policy, adopts rules and approves finances. In an advisory capacity an agricultural marketing board of Balochistan is recommended to facilitate coordination among public entities, and participation of stakeholders. At the technical level, the Department of Agriculture (Marketing Wing) would provide crucial expertise, studies and information, and be responsible for market regulation and supervision. Finally an agricultural marketing corporation of Balochistan is proposed to carry out specific development programs, beginning with training of a new breed of professional market managers.

Each of these institutional roles is discussed below, along with recommendations related to market management.

5.1 Liberal Policy Framework: Replace 1991 Act

It is worth stressing once again that the 1991 Act in Balochistan is not an agricultural marketing law. It emphasizes control of products to collect fees and commissions. Traditional laws such as this should be repealed entirely and replaced by a law that promotes, rather than restricts, market development, orients government toward its proper role, and facilitates private sector initiatives.

The distinguishing feature of Balochistan agriculture is that most produce is marketed outside the Province. However, there is still a need to modernize and open provincial markets to promote backward integration with farmers through better linkages and value chain development, which will in the end help intra-country trade as well as foreign export. Only two public marketplaces or *mandis* have been formed under the 1991 Balochistan Act, but nine more in process of construction.⁶ A large number of functionaries/public servants imposes rigidities that are difficult to change later on as needs evolve. Up to now in Balochistan, relatively few stakeholders have become entrenched in the traditional, colonial style applied elsewhere in the country to agricultural markets. Instead of reforming a traditional policy, the Province can in reality, set a proper course from the start.

Liberalizing the overall agricultural marketing policy will shift focus to demand-driven marketing approaches. This profound aspect in the policy framework has far-reaching implications for behavior and performance of the marketing system—emphasizing competition over privilege. The policy must allow for market systems to evolve, developing new approaches to reach consumers with better services in delivering wholesome food products of uniform quality at reasonable prices. The policy and legal framework should refrain from prescribing roles and procedures for doing business, but rather allow flexibility for private initiative to innovate and

⁶ Conversation with the Secretary of Agriculture of Balochistan, Mr. Saleem Saqid

improve. As each actor seeks a competitive advantage through application of new technology and organizational strategies, commercial systems evolve and progress.

The Balochistan Provincial Government should point the direction it intends to set. Stating the purpose and direction of the new policy alerts public officials and commercial actors alike that a major step is underfoot so as to stimulate private interest and to facilitate adjustment of public institutions as they come to terms with their appropriate roles. In particular the message should attract interest on the part of business people that might see potential opportunities.

The Preamble for a new law should show the determination of Government to implement a new policy direction. The preamble might expressly state the objective, such as:

To promote agricultural market systems that facilitate commercial development through multiple channels, thereby providing closer linkages of farmers to markets, both domestic and foreign. Successful implementation of this new policy requires initiative of private enterprise—small and large--to invest and operate agricultural marketing facilities.

Most of the current Act establishes severe restrictions on trading practices and safeguards the interests of functionaries to collect revenues, to the detriment of both farmers and consumers. Most provisions of the law should simply be repealed. For instance, government control over purchase and sale of products should be replaced to show government's proper role in promotion and facilitation of dynamic market systems where quality and hygiene are prioritized. Restrictions on use of business facilities for purchase or sale of produce should be removed. Market Committees should be eliminated, along with licensing of functionaries. Emphasis on revenue collection, rather than improving services should be changed. Fees from processors and others that do not utilize the *Mandis* should be eliminated. Set commissions should be eliminated. Auctions may be useful, but should not be prescribed as the only means of transactions.

A new liberal policy should foment the formation of value chains oriented to better serve the needs of clients on the demand side of the market. Some of the initiatives the new policy can take are as follows:

Market Management; In the new liberal policy persons should be free to utilize space in public markets or establish separate facilities for trading in agricultural products. The Balochistan government should promote formation of private wholesale markets open to competition.

Open to participation: Registration of dealers and other actors in the market should be open to entry/exit of participants without special privileges or licenses. Dealers should compete based on services provided and competitive marketing margins.

Value chain development: High value opportunities, including value chains for different market segments and export trade, have already been identified and can be developed with private initiative and investment. The new policy should promote private investment and business development in value chains where supply is organized in direct response to demand through buyers of superior products. The Balochistan government should promote standards for quality and hygiene of agricultural produce to both increase value to farmers and protect interests of consumers.

Focus on high value and market niches: Market niches such as organic and other kinds of certifications coincide with the concepts of responsible suppliers and high standards of product quality. The Balochistan government should be proactive in finding buyers with access to higher value markets based on supplier responsibility and certifications.

Enterprise development: Private initiative should be promoted to invest in facilities in various forms, from packing sheds in the field to warehouses, cold storage or distribution centers in cities.

Public Retail Markets: Expand public retail markets and weekly bazaars to serve residential areas at all income levels. Efficiency in market channels and development of value chains should be emphasized, rather than price controls. Direct provision of fresh produce from local farms using the farmer market concept can be applied to promote value chains through bazaars.

Expand opportunities for female entrepreneurs; The market appraisal in other provinces showed that Sunday bazaars open opportunities for women vendors to earn additional income for their families. Expanding retail public market outlets to more days of the week will attract still larger numbers of businesswomen.

5.2 Constitute a Provincial Agricultural Marketing Board

Reforms require coordination and participation of stakeholders, rather than depending on haphazard communications and exchange to take place. The formation of a provincial agricultural produce marketing board is recommended to both facilitate stakeholder participation and to coordinate among institutions. The board cannot supplant the authority of different levels of Government to approve rules, set policy within the law, administer finances, and so forth. The board should propose means of implementing policies framed by relevant laws, while the Provincial Department of Agriculture provides staff to carry out technical functions.

The Board would be primarily responsible for formulation of rules to implement the policy set by a new agricultural marketing law. Its functions should include registration of market operators, authorization of new markets under public private partnership, following up on implementation issues, guiding the reform process, and forming specialized institutions to train personnel and promote marketing businesses. Its actions are intended to promote development of alternative marketing channels in response to demand, raising standards of quality and wholesomeness to become increasingly competitive in domestic and foreign markets. Its functions would include:

- Frame rules and regulations for approval of Provincial Government
- Establish rules for formation of private markets
- Adopt rules for operating public retail markets, such as farmer markets
- Coordinate among institutions regarding issues such as health and safety
- Monitor the system of agricultural produce marketing
- Establish and oversee training and development institutions
- Review and propose standards for grading, packing and marking of agricultural produce

The composition of the board should facilitate coordination among ministries and other public organizations including those concerned with food safety and with trade. It should also include private sector actors concerned with improving agricultural marketing systems.

Obtaining meaningful input and representation from various stakeholders is a challenge. For instance, farming in Balochistan is a joint operation carried out among several actors. A farmer is sometimes a land owner that establishes plantations and employs staff to operate tube wells for irrigation. Sharecroppers often are responsible for caring for the crop. Pre-harvest contractors take over responsibility at the point of fruit set. Talented groups of workers are employed for grading and packing. Up to five different sets of people can be involved--some employees while others such as sharecroppers and contractors take direct responsibility for the

crop and share in risks implicit in both production and marketing. In some cases, the farmer himself may play only a passive role. Therefore, including a farmer in a board or committee may not achieve meaningful representation of the parties concerned with handling and marketing produce.

Another challenge is to convene meetings involving ministers with many private stakeholders. The concerns and areas of expertise of each may be too far apart to allow for meaningful discussion. Ministers may feel pressured to resolve micro matters related to specific situations, and other issues of public concern, such as finance, might be difficult to resolve in an open forum with stakeholders including small farmers and pre-harvest contractors. The solution is often to appoint token representatives of farmers, retailers, consumers and others to boards and commissions. But this should obviously be avoided.

For these reasons, the formation of different groups of stakeholders is proposed, each for the purpose of advising the Board on issues of interest. The Board should formally recognize each advisory group, name the members to each group, and should assign tasks to the advisory groups. The Board may also take under consideration issues and proposals suggested by the groups. A representative of each group could be appointed to the Board.

5.3 Strengthen the Provincial Department of Agriculture

The Provincial Agriculture Department would assume an advisory and technical role, providing staff to manage information and supervise. The primary functions to be performed are as follows:

- Market information services
- Research and studies in agricultural produce marketing for performance monitoring
- Conducting feasibility studies for new markets
- Approval of new markets
- Registration of market operators and actors
- Providing guidance on best practices in market management
- Propose standards for quality, safety, hygiene, grading, packing, marking of agricultural produce
- Market supervision and regulation

Market information services should stress more than prices. Volumes and various aspects related to quality and value chains should be included. Coverage will need to broaden out to include products moved through scattered market facilities, including private packing sheds and distribution centers. Coordination through the board to ensure consistency across provinces is crucial. Action in this area is urgent as the author understands that the Ministry of Food and Agriculture at national level has been dissolved.

The Provincial Department of Agriculture should initiate surveys and conduct rapid appraisals to generate databases for market management and performance monitoring. The Department should play a major role in specifying the studies needed in each case and in reviewing results with researchers and potential users through the board.

Feasibility studies should be conducted to design each marketplace rather than adopting a set model. The FIRMS analysis in Balochistan did not examine in detail the operations of the two *mandis* operating in the Province, but initial reports indicate that at least the Quetta *mandi* operates reasonably well. This superior performance may be because the markets are relatively

new, or perhaps because of competition with other provinces. Whereas produce is trapped by *mandis* in Punjab and Sindh, most produce from Balochistan bypasses the local *mandi*. Only a minor portion that is consumed in Balochistan must necessarily go through the *mandi*, where there is one. However, replicating a fixed model for a *mandi* from one situation to another will run into problems. Infrastructure, personnel and management structures need to adapt to the needs of the users of each marketplace.

Quality standards are intended to promote improved practices. Adoption of standards does not imply a single grade. Indeed, the proposed reforms seek to differentiate market segments served according to their needs. Standards should be indicative to facilitate trade, but not restrictive.

A neglected aspect of market regulation relates to hygiene and contamination—a matter of critical public concern. Under the direction of the Board, the Provincial Department of Agriculture should coordinate with other agencies to carry out food health and safety programs. Samples of products subject to use of pesticides should be tested regularly for residues and other sources of contamination. If problems arise, the Provincial Department of Agriculture then identifies steps to resolve the problem together with farmers, contractors and other handlers.

In order to re-tool its team and develop the capacity to carry out its appropriate role, the Balochistan Department of Agriculture will require expertise. The marketing staff of the Department will need additional specialized training to strengthen its capabilities.

5.4 Setup Balochistan Agriculture Marketing Development Corporation

Public authorities in Balochistan recognize the need to actively stimulate and promote business development and facilitate market linkages. As policy reforms take hold, increased opportunities will emerge to prepare products for specific market segments based on quality specifications. A development institution can do much to promote private sector initiatives by training, promoting and facilitating. Some of the recommended activities that a public/private development corporation could assume are as follows:

1. Training for market managers
2. Promotion, including model designs and specifications for infrastructure
3. Promotion of certifications, such as organic farming
4. Business promotion
5. Special branding: Nature's Orchard

Not all activities should be carried out at the same time. Instead, each should receive special attention during an initial kick-off period of perhaps a year, so that all five activities would become operational only after approximately five years. They are listed the proposed order, implying that the corporation should begin with training in market management. Then it would move into promotional activities, including development of model designs for infrastructure, with emphasis on cold chain facilities.

Training

Basics to be included in the curriculum for market managers include security, traffic control and sanitation services. Operation of cold chains and provision of utilities should be included. More challenging topics include property rights and allotment of space. Then topics should turn to personnel management, cost control, revenue collection and accounting.

Market managers should also learn the basics of marketing, with emphasis on the needs of warehousemen, wholesalers and distributors. They should become alert to formation of new market segments and changing needs.

Above all, market managers need to facilitate participation of owners, traders and others in the market company or association, and users of the marketplace. Bye-Laws should accommodate this process.

Promotion & Development of Model Designs

General promotion can include events to orient traders about alternative market channels or opportunities to improve handling and grading. These kinds of activities need to always begin by identifying a solid market opportunity, which will usually require travel to other markets in Pakistan and even foreign markets. Promoters of the development corporation must be convinced that serving different market segments according to their needs as expressed by buyers will open opportunities for Balochistani farmers. Becoming aware of these opportunities as they arise is the first step in promotion.

A bottleneck often faced by small and medium operators is to obtain proper designs and specifications for packing, grading and cold storage facilities. Few design engineers have experience in these topics and costly errors can be made. Designs should include provisions for truck access, space for loading and unloading, washrooms for personnel and handling of wastewater, etc. It should be kept in mind however, that the ideal design may be too costly for many operators. Basic models can be added onto and improved upon over time.

Promotion of Certification

Organic certification and other kinds of ecological and social certifications operate in most countries. It is worth noting that organic farming implies much more than simply not using pesticides. Standards vary among certification programs, but they nearly always include economic and social sustainability, besides ecological considerations. Organization and record-keeping provide a basis for external verification through spot checks and audits by the certifier.

There are two phases to certification: one on the farm and the other in the value chain. The chain of custody distinguishes certified products from others. The development corporation can play an important role in preparing farmers and handlers in maintaining truthful and accurate records in preparation for obtaining certification. It can also collaborate with certifiers in training personnel to participate in inspections and audits.

Sometimes the specific market segment that responds with a preference to purchasing certified products is slow to develop, and initial costs of certification become difficult to justify. Over time, however, when competition becomes keen and shoppers become more aware of issues such as risks of contamination, certified products gain preference. Because this process of consumer education can take time and is unsure, the role of the development corporation is again justified.

Business Promotion

Business development institutions often focus on the one hand on training in business administration appropriate for positions in large corporations and on the other on micro credit applicable to personal activities or household consumption. Neither approach is entirely appropriate for business promotion where actors are involved in commercial-scale activities—small to large. Other approaches emphasize improvements of infrastructure, often falling into the supply-push model without first identifying solid business opportunities. These efforts often meet with more frustration than success.

To avoid these pitfalls, the proposed strategy follows a deliberate process where business advisors proactively seek out opportunities in the marketplace. Buyers often face quality problems from their suppliers, but are at a loss in finding ways to reach farmers scattered over regions at long distances. The proposed strategy starts with the final market and works back to link into supply systems to the grower. The process for short-term investment/divestiture would be implemented through the following stepwise procedures:

- A business plan is developed based on an opportunity of supplying improved product at higher value to dealers in private markets (in Balochistan or in distant markets). The business opportunity is identified with the buyer in market.
- Interested suppliers are identified. This may imply a single farmer, a contractor combined with a single farmer or with several growers, or any other combination.
- A Business Plan is prepared by suppliers and the buyer with assistance from business advisors. The Business Plan should be short—perhaps only eight pages. A sample business plan is shown in Appendix B.
- Identify bottlenecks to improving and delivering quality product that meet specifications.
- Define actions needed on part of each—buyer and supplier. Even if the Business Plan is prepared by suppliers, it is important at this stage to involve the buyer as the person interested in seeing that quality specifications are met.
- Apply incubator approach, not by investing in the company, but instead in the “enterprise”—the product central to the business transaction.
- The development institution is responsible for obtaining funds to provide some of the resources for short-term investments. These investment funds should be directly related to overcoming the bottlenecks identified earlier. This funding does not imply a general finance scheme for the grower or contractor, but instead a means of carrying out the specific actions for making improvements to improve product quality.
- With sale of the product, the development institution recovers its investment from the buyer (divests).
- Business advisors are paid on a performance basis—depending on the attainment of targets.

Business plans should be subject to a review panel that assigns resources. Selection should be based on the quality of the plan itself, as opposed to an evaluation of the capabilities of the client. In this way, the strategy is neutral regarding different actors in the value chain or market.

The review process should involve technical personnel as advocates for social capital, business opportunities, environment, gender, and others areas. The group not only reviews and approves proposed business plans, it is charged with detecting weaknesses in the process and proposing solutions. It is important that members of the review group support business advisors in the field, rather than critique and detract from their efforts. The review process therefore is time for mutual self-assessment. Members of the review panel take responsibility for the final product, as much as the business advisors. No business plan can be perfect, because there is no perfect means of providing incentives and facilitation. What worked today could have been done better and can be improved upon. And tomorrow it may not work at all. The challenge is to explore new methods and continually improve in harmony with changing situations.

5.5 Market Management

There are many kinds of facilities used on handling agricultural produce. Fruit crops are often packed in the open field or in packing sheds located on the farm. In some cases a packing shed can be situated to handle products of various small farmers. These facilities are usually provided by handlers, such as pre-harvest contactors, or by farmer associations. From there the packed and graded product is transported to warehouses for wholesale and distribution. Cooling can begin at the packing shed, refrigerated transport, or at the destination warehouse where the product is sometimes held for ripening. Distribution is made to groceries, restaurants and institutions. In Pakistan, sales to small shops and carts is normally through wholesalers at *mandis*. There are possible shortcuts through any of these multiple channels. For instance, the product can be packed at the farm and transported directly to retail shops. An alternative practice is to bring fruits into large central facilities for washing, sorting and packing.

Vegetables crops are often produced closer to regional urban centers. Field packing is common, but an option is to for the buyer to receive the product in a centrally located facility for washing, cooling, and packing for distribution. This process can be carried out in conjunction with wholesale marketing. In Pakistan, vegetables destined for wholesale usually are received in *mandis* directly from the field, with no washing or chilling.

As can be seen, with development of market chains competitively directed to service different market segments, several alternative channels emerge, requiring different kinds of facilities. Many imply private, single owner/operator facilities. But often even private warehouse or distribution centers are more feasible when located in or near a marketplace open to the public. By locating near a *mandi*, a distributor has the possibility of obtaining product when his suppliers fail to deliver in the required volumes, and especially selling excess product not accepted by his clients.

The organization of marketplaces like *mandis* is usually considered to be a public good. Throughout most of the world, municipal governments provide space and organization for public markets, both retail and wholesale as a matter of public interest. In Pakistan, the *mandis* appear to be public markets, but they are fraught with control by commission agents. The government assumes a minimum of responsibility for operations, except overstaffing with functionaries. It might seem, therefore, that a reform in agricultural marketing would push for greater public involvement over marketplaces. Space in the market would be available for all actors, any person would be free to compete in market of produce, and market management would facilitate logistics, leaving commercial transactions to private parties. But in practice, increasing the role for public administration of *mandis* in Pakistan cannot be expected to generate these results. Instead it would likely lead to entrenching regulatory measures with emphasis on rent-seeking. The most expedient means of breaking this tradition is a move toward private development of markets. This measure in the policy framework is essential to strengthen the Provincial Government's role as policy maker and performance monitor. Responsibility for routine market management should be shifted to independent professional management groups.

The discussion below applies to marketplaces open for use by the public with common areas and services, as opposed to private, individually owned and operated facilities. The marketplaces may be formed by the government or by private investors, but they are organized under a new reformed policy implying open competitive. Without notification, traditional monopolies, commissions and fees would not apply. Wholesalers, traders, agents and others would all be on the same level ground. Since they no longer rely on traditional commissions, their incentive is to look for (and satisfy) clients in markets to get greater sales and value. Behavior will change as these actors compete for clients on the demand side, rather than collect commissions from supply side.

The concepts below can be generalized, but they are set forth on the assumption that a private developer takes the initiative to establish a marketplace open for use by many actors—wholesalers, warehousemen, distributors, retailers and consumers. The example contemplates a trader's association to be formed by persons operating out of space allotted to them in the marketplace. The trader's association—similar to the companies to be formed for public *mandis* in Sindh—gradually assumes responsibility for market management as the developer completes market facilities and sells the last of the spaces. Therefore, depending on the specific case under consideration, company can be substituted for traders' association and government can be used in place of developer.

Concept: Tailor layouts to specific needs. The layout and operation of each market facility open to use by multiple actors should be based on feasibility studies which should be prepared by the developer proposing the establishment of a new market. It is much different to design facilities for 1) a "transfer" market (truck to truck) than for a 2) terminal market with thousands of retailers making their purchases in early hours of the day or for 3) wholesale/retail market with consumers as main shoppers throughout the day. (See Appendix C for examples of traditional layout and improved layout for a wholesale/retail market.) The terms of reference for each feasibility study should first be agreed upon with the Department of Agriculture.

Concept: Streamline the management structure. Where a developer is the primary organizer of the market, he can fulfill an important role, especially in the early stages, by contracting and supervising the management company. Common areas including streets, parking spaces, loading/unloading spaces and such belong to the developer until such time as they can be transferred to a traders' association. Therefore, it is natural for the developer to assume responsibility for provision of common services at the outset. The original agreement should specify the terms for eventual transfer of common areas to a traders association. The Department of Agriculture should work to form and strengthen the association in anticipation of its expanding role.

Concept: Promote gradual institutional development. A traders association has several important roles to fulfill. But it is unlikely to have the capability to exchange information among its members, analyze alternatives, foment participation and make good decisions right at the start. In some cases, only a few traders may be on board in the initial phase of market operations. Achieving changes in the ways market administration is carried out must allow for a process of evolution and development. It would be a mistake to over-prescribe rigid forms of organization. Instead the Departments of Agriculture can develop model Bye-laws and other such instruments to guide and facilitate institutional development. No one can presume to know just which arrangements are the best and most workable for various actors. The process requires nurturing, but with a clear vision of the direction that policies should take.

Concept: Avoid rigidities of predetermined, fixed staff. Management services should concentrate primarily on maintenance of facilities, traffic accommodation, sanitation, and such. Contracting a professional management company might avoid hiring excess staff and creating a fiefdom. The management company should hire workers according to its needs. For instance, a full-time accountant may not be needed. Instead a management company can assign a paymaster to disburse salaries and other payments on occasion as needed.

Concept: Make revenue collection automatic. Whether shops are rented or sold to traders, they must cover the operating cost of market operations. The annual budget for maintenance and operations should be transparent and should be shared with the Traders' Association. The Association should agree on the budget and schedule of service charges by general consensus. Each trader should deposit the payment automatically each month to an account of the developer with little need for follow-up. The developer then pays the contracted management

firm. Upon purchasing space for shops, traders should agree to abide by bye-laws of the market established by developer and/or Traders Association in conjunction with the Department of Agriculture. In case of non-payment, measures for immediate action should be set up in advance for appropriate government agencies to intervene.

Concept: Investments to improve common infrastructure and facilities should be a continual process. The developer should agree to invest a given amount each year for improvement of infrastructure and according to the needs of traders and users of the market. The initial agreement signed with the Department of Agriculture should stipulate the amount to be invested each year based on a tentative list of the kinds of possible improvements. Specific investments for improvements should be consulted with the market users advisory group (see below) and agreed upon with the traders association each year. The agreement with the Department of Agriculture should specify the actions that apply in case the developer fails to follow through with the investment plan.

Concept: While traders have “vote”, other users should have “voice”. Naming farmers, retailers and consumers to participate as members of traditional Market Committees has not led to effective representation of the interests of these groups. The reasons may be the limited functions of Market Committees, or the lack of information and guidance. The FIRMS Project Baseline Survey of *Mandis* of Punjab and Sindh showed little knowledge of governing laws on the part of participants in markets, surprisingly even among commission agents. However, the RMA in Balochistan confirms that the various actors, including farmers, are well aware of market channels and some of their weaknesses. Users of the market should be given the opportunity of expressing their views through a market user’s advisory group. Members of the users advisory group should include retailers, consumers that use the market, truckers, farmer/growers and perhaps others. Department of Agriculture should facilitate by providing information on the issues and the role of proactive participants along with developer, manager, and traders. Facilitation is perhaps the most challenging of roles that will requires capacity on the part of government.

6. FIRMS Project Actions

Political decisions are in the process of solidifying process of change—evident in the determined actions taken by the governments of Sindh and Punjab, and especially by the policy position announced by the National Economic Council that prioritizes agricultural market reforms. The Balochistan Provincial Government seems determined to avoid the pitfalls of traditional agricultural marketing policies from the colonial period. With limited time frame FIRMS can focus on immediate actions to help the Balochistan Department of Agriculture tool up to assume new functions along with the proposed agricultural marketing board and the initial activities of the public-private agricultural marketing corporation.

Rather than general assistance in institutional strengthening, it is recommended that FIRMS help each institution undertake specific activities. First FIRMS can help develop training programs with the agricultural marketing corporation. Simultaneously, FIRMS can help the Department of Agriculture carry out feasibility studies for new markets. Finally, again with the Department and the board, FIRMS can undertake a pilot study regarding pesticide usage and risk of contamination.

6.1 Training of Trainers for Development Corporation

Topics for inclusion in training programs are: 1) marketing concepts and value chains, 2) legal framework, 3) property rights and allotments of space, 4) physical organization and handling, cold chains and infrastructure requirements, 5) grades and standards, 6) brand recognition and certifications, 6) hygiene and sanitation, 7) cost control and service charges, 8) facilitation and participation in decision making and 9) fair practices and dispute resolution.

Legal aspects of allocation of space in public markets needs special attention. In some existing markets, property rights are ambiguous. The government seems to retain title, but commission agents have installed infrastructure on the understanding that the plot was being allocated to them permanently. That implies that the commission agent owns the property, not the government.

There is limited experience in Pakistan on some of these topics. FIRMS can help the corporation draw from experiences for export of kinno and mango. FIRMS should help organize some of the course materials and recruit local and limited international talent.

Trainees would first include members of the board and Department staff and second would be extended to professional management organizations and members of companies in charge of markets.

Again because of a limited time frame, FIRMS can assist in training of trainers through linkages and study tours to similar institutions and commercial sectors in other countries in the region.

6.2 Feasibility Studies for Markets under Private Management

Efforts in Punjab and Sindh to improve market management are currently focused on devolving greater functions and responsibilities to the private sector. A similar course is recommended for Balochistan.

One case study should demonstrate the potential for operating a fruit and vegetable *mandi* that deals in volumes of produce of at least around \$10 million per year. It is expected that with a simplified managerial plan to adequately provide basic services, while avoiding overstaffing, the total budget for operations and infrastructure improvement might reach 100,000 US dollars per year. Therefore, the hypothesis is that the *mandi* can be operated with around one percent of

the wholesale value of the produce that it handles. Another case study should focus on a *mandi* in a smaller district that handles minimal volumes of produce. Topics to be addressed in each case study are:

- Management Structure—participation in decision making
- Efficiency and cost control
- Specifications to let bids and select professional management firms
- Allotments and property rights
- Service charges and fees on allotted space

The feasibility studies undertaken in Balochistan can complement studies of existing public markets in Sindh and Punjab. In Sindh, local government plays more of a role in supporting *Mandis*. In Punjab, the Department of Agriculture plays a heavier role in market management.

6.3 Initial Test on Pesticide Contamination

This important topic does not seem to be receiving sufficient emphasis in the process of reforming agricultural produce markets in Pakistan. Protection of public interest demands that the government take action to ensure suppliers are acting responsibly. Further, adopting proper practices on pesticide use constitutes one more step the industry can take to improve and meet ever more demanding environment and safety requirements of international markets—which are a model for domestic markets as well.

FIRMS should work with the Department of Agriculture and under direction of the board to coordinate a study on pesticide practices, usage and contamination. Results should be used to design policies and strategies for improvement

7. Appendices

Appendix -1 Statistical Methodology

The purpose of this appendix is to leave a clear record of the derivation of the figures regarding the value of horticultural crops produced in each Province of Pakistan. The primary source of data for both volume of production and prices was national statistics of Ministry of Agriculture and Livestock for 2008-09. Production data are shown below in metric tons. Balochistan is dominant in apples, grapes, apricots, pomegranate, plums and almond, and together with Sindh in dates, in tomato and onion.

Production of Horticultural Crops by Province, Pakistan, 2008-09					
	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
FRUITS	(metric tons)				
Citrus	2,059,507	30,531	33,831	8,407	2,132,276
Mango	1,324,875	390,486	4,030	8,541	1,727,932
Banana	9,462	128,888	13,243	5,726	157,319
Apple	3,675	33	130,820	306,534	441,062
Grapes	-	19	1,318	74,758	76,095
Pomegranate	15,667	-	1,819	43,604	61,090
Guava	395,479	70,470	42,628	3,718	512,295
Dates	44,613	261,946	11,341	248,594	566,494
Apricot	238	-	19,098	218,601	237,937
Peach	474	-	57,834	25,362	83,670
Plums	291	-	31,462	35,128	66,881
Almond	52	-	847	25,588	26,487
VEGETABLES					
Lady Finger	55,670	24,121	18,156	16,710	114,657
Tinda	68,590	14,041	12,191	2,864	97,686
Brinjal	57,369	10,449	11,982	8,348	88,148
Tomato	72,475	100,921	115,795	62,365	351,556
Radish	116,852	6,861	13,824	26,269	163,806
Turnip	188,067	12,978	43,797	20,758	265,600
Carrot	168,682	14,384	8,034	54,431	245,531
Cauliflower	159,667	12,567	18,338	44,083	234,655
Peas	50,996	677	12,239	14,701	78,613
Potato	2,782,683	3,026	121,005	34,608	2,941,322
CONDIMENTS					
Chillies	8,590	172,171	629	6,179	187,569

Production of Horticultural Crops by Province, Pakistan, 2008-09					
	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
Onion	300,515	660,171	12,066	607,015	1,579,767
Garlic	24,870	14,309	1,987	5,995	47,161
Source: Fruit, Vegetables and Condiments Statistics of Pakistan, 2008-09, 19th Edition Economic Wing of Ministry of Food and Agriculture, December 2009					

Multiplied by wholesale prices, the values of horticultural crops are shown below. The total value of Horticultural crops from Balochistan reaches upwards of 900 million US dollars, second only to Punjab. The majority is made up of fruits, where Balochistan excels. Dates and apricots are followed in value by apple, and from there, peach, plums and pomegranate. The value of all vegetable crops together in Balochistan is second only to Punjab. Balochistan is the country's leader in onion production, together with Sindh.

Value of Horticultural Crops by Province, Pakistan, 2008-09					
	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
	(US Dollars)				
FRUITS	1,422,631,663	361,702,002	218,521,896	677,512,319	2,680,367,880
Citrus	612,679,662	7,124,328	21,828,470	2,914,146	644,546,606
Mango	563,853,747	98,773,845	-	4,607,170	667,234,762
Banana	2,848,173	29,668,143	5,285,252	1,250,450	39,052,019
Apple	2,911,724	12,870	48,522,324	113,696,239	165,143,157
Grapes	-	13,145	1,488,469	31,745,355	33,246,969
Pomegranate	10,509,693	-	1,220,216	29,250,312	40,980,221
Guava	196,147,522	34,951,327	21,142,403	1,844,033	254,085,286
Dates	32,556,891	191,158,345	8,276,236	181,414,557	413,406,028
Apricot	197,436	-	15,842,965	181,342,972	197,383,373
Peach	347,020	-	42,340,888	18,567,791	61,255,699
Plums	469,688	-	50,781,204	56,698,307	107,949,198
Almond	110,107	-	1,793,469	54,180,986	56,084,563
VEGETABLES	803,081,909	39,332,448	63,342,062	77,593,525	983,349,944
Lady Finger	23,481,377	4,886,485	5,712,116	6,956,804	41,036,781
Tinda	20,208,311	3,064,661	2,149,981	713,857	26,136,810
Brinjal	10,150,829	1,675,055	1,781,130	2,034,297	15,641,310
Tomato	18,609,909	21,491,447	21,896,782	16,753,361	78,751,498
Radish	10,108,780	746,698	1,677,505	5,221,129	17,754,112

Value of Horticultural Crops by Province, Pakistan, 2008-09					
	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Pakistan
Turnip	13,813,646	1,559,329	3,557,271	4,799,193	23,729,439
Carrot	30,049,143	2,023,887	1,134,464	16,522,055	49,729,548
Cauliflower	48,197,953	3,161,750	2,563,507	11,879,828	65,803,038
Peas	24,618,680	231,827	4,328,775	6,721,895	35,901,176
Potato	603,843,282	491,310	18,540,531	5,991,108	628,866,231
CONDIMENTS	83,119,026	321,754,326	4,155,176	155,936,929	564,965,458
Chillies	10,554,617	176,473,431	854,867	6,469,068	194,351,982
Onion	64,309,186	140,898,614	2,348,539	145,867,830	353,424,168
Garlic	8,255,224	4,382,281	951,770	3,600,032	17,189,307
TOTAL	2,308,832,598	722,788,777	286,019,134	911,042,773	4,228,683,282

Annual average prices for 2008-09 were used when available. The author recognizes that taking simple averages of monthly prices inflates value of production because the bulk of produce is usually sold at lower price levels when harvest of the crop is in full swing. But a finer analysis of this kind requires data on volumes moved each month to accompany monthly prices.

Prices for Lahore were used to calculate value of production for Punjab, Hyderabad for Sindh, Peshawar for KPK and Quetta for Balochistan. However, an anomaly appeared in prices reported for apples where a price of only \$0.11 per kilogram was reported in Quetta, while in Peshawar the average price was \$1.09 per kilogram. This is especially curious as both Provinces produce apple. Therefore, the export price of \$0.37 per kilogram was substituted for apple from both Provinces.

Average Annual Wholesale Prices									
	Weight	Lahore, 2008-09		Hyderabad, 2008-09		Peshawar, 2007-08		Quetta, 2008-09	
		(Rupees)	(USD/Kg)	(Rupees)	(USD/Kg)	(Rupees)	(USD/Kg)	(Rupees)	(USD/Kg)
FRUITS	(Kg/box)								
Malta(orange)	14	329.3	0.30	258.3	0.23	558.3	0.65	383.7	0.35
Kino	14	291.7	0.26	349.2	0.32	479.0	0.55	286.5	0.26
Mango	40	1,346.0	0.43	800.0	0.25	NA	NA	1,706.0	0.54
Banana	1.5	35.7	0.30	27.3	0.23	37.0	0.40	25.9	0.22
Apple	40	2,505.8	0.79	1,233.4	0.39	2,691.7	1.09	339.4	0.11
Grapes	40	4,900.0	1.55	2,188.0	0.69	2,792.0	1.13	1,343.0	0.42
VEGETABLES									
LadyFinger	40	1,334.0	0.42	640.7	0.20	777.8	0.31	1,316.7	0.42
Tinda	40	931.8	0.29	690.3	0.22	436.0	0.18	788.3	0.25

Average Annual Wholesale Prices									
	Weight	Lahore, 2008-09		Hyderabad, 2008-09		Peshawar, 2007-08		Quetta, 2008-09	
Brinjal	40	559.6	0.18	507.0	0.16	367.5	0.15	770.7	0.24
Tomato	40	812.1	0.26	673.5	0.21	467.5	0.19	849.6	0.27
Radish	40	273.6	0.09	344.2	0.11	300.0	0.12	628.6	0.20
Turnip	40	232.3	0.07	380.0	0.12	200.8	0.08	731.2	0.23
Carrot	40	563.4	0.18	445.0	0.14	349.1	0.14	960.0	0.30
Cauliflower	40	954.7	0.30	795.7	0.25	345.6	0.14	852.3	0.27
PeaS	40	1,526.8	0.48	1,083.0	0.34	874.4	0.35	1,446.1	0.46
Potato	40	686.3	0.22	513.5	0.16	378.8	0.15	547.5	0.17
CONDIMENTS									
Dry Chillies	40	3,886.0	1.23	3,241.7	1.02	3,360.0	1.36	2,588.3	1.05
Onion	40	676.8	0.21	675.0	0.21	481.2	0.19	760.0	0.24
Garlic	40	1,049.8	0.33	968.6	0.31	1,184.2	0.48	1,899.2	0.60
NOTE: Price for dry chillies for Quetta is from 2007-08.									
Weight for kino and malta are for 100 units. Weight for banana is for 12 units.									
Source: Fruit, Vegetables and Condiments Statistics of Pakistan, 2008-09, 19 th Edition									
Economic Wing of Ministry of Food and Agriculture, December 2009									

Prices for 2008-09 were not reported from Peshawar for most crops. Therefore, Peshawar prices, applied to products of KPK, are from 2007-08. All prices were converted to US dollars using the

FX 164 Currency Converter © 1997-2010 by OANDA.com. See chart below for conversions used in the analysis.

CurrencyConversion

Date	Rupees/USD
For 2006-07: Jan1,2007	60.9
For 2008-09: Jan1,2008	61.8

Source: <http://www.greenwichmeantime.com/time-zone/asia/pakistan/currency.htm>.

For several fruit crops, notably many of the main fruit crops produced in Balochistan—prices were not reported. For these crops, export prices were calculated from the same data source, dividing the value of exports by volume exported.

Export Prices for Selected Crops, Pakistan, 2008-09			
	Total Value of Exports	Volume Exported	Average Price
	(Rupees)	(Kilograms)	(USD/Kg)
Apple	66,804,000	2,277,936	0.37
Grapes	9,054,000	184,256	0.62
Pomegranate	11,674,000	220,101	0.67
Guava	4,924,000	125,564	0.50
Dates	257,963,000	4,470,771	0.73
Apricot	24,237,000	369,519	0.83
Plums	6,515,000	51,051	1.61
Almond	6,938,000	41,441	2.12

Source: Fruit, Vegetables and Condiments Statistics of Pakistan, 2008-09, 19th Edition

Economic Wing of Ministry of Food and Agriculture,
December 2009

Finally, the price used for peach came from the 2010 Rapid Market Appraisal (\$0.73/Kg). No reliable price reference was encountered for pears. Therefore, this crop was excluded from the analysis

Appendix-2 Sample Business Plan (Paraphrased)

Banana Producers Block 4-Chimoré

This document resulted from a process to identify a business opportunity and a proposal for Project support. Its implementation will overcome bottlenecks that have been identified through this process.

1. Business Opportunity

The Group of Banana Producers Block 4-Chimoré has the opportunity to increase sales of premium fruit to Argentina through an export firm, EBITA. The producer group will expand from eight families to twelve, and area cultivated will expand from 20 hectares to 50, increasing production to 1,000 boxes weekly.

2. Principal Bottleneck

Insufficient infrastructure for packing.

3. Implementation Plan

Management of the plantation will comply with the protocol established with Argentina regarding control of Black Sigatoka, and postharvest treatment within the allowed dosage permitted by Bolivian authorities. The Group will comply with standards for safety personnel in use of pesticides in aerial spraying. The Group agrees to carry out the expansion of the packing shed, including bathrooms and water treatment and register the facilities and plantations with proper authorities.

4. Budget

Item	Total Cost	Project Contribution	Client Investment
Expansion and improvement of packing shed *	\$9,862.86	\$4,931.43	\$4,931.43
Bath and septic tank	1,714.29	857.14	857.14
Water treatment system	2,114.29	1,057.14	1,057.14
Two sets of rollers for tables	1,920.00	960.00	960.00
Chute for boxes	514.29	257.14	257.14
TOTAL Bs.	\$16,125.71	\$8,062.86	\$8,062.86

* Includes construction of form for boxes and area to shred organic waste for composting.

5. Benchmarks

Number	Benchmark	Indicator	Estimated Date of Completion	Project Contribution
1	Contract for expansion and installations	Signed contract	July 2007	\$2,418.86
2	Provisional reception of packing shed, bath and water treatment system	Act showing provisional reception	October 2007	4,792.00

Number	Benchmark	Indicator	Estimated Date of Completion	Project Contribution
3	Purchase of two set of rollers and box chute	Proof of payment for installation	October 2007	\$852.00
			TOTAL	\$8,062.86

6. Expected Results

- Increase in banana production for international market by 30,250 boxes per year
- Sale of 1,000 bunches per year on local market

Year of Implementation	Projected Sales
2006 base line	\$18,200
2007	\$55,100
2008	\$55,100
2009	\$55,100

Increased Sales	Project Contribution	Ratio of Increased Sales to Project Contribution
\$110,700	\$8,062.82	14 : 1

7. Roles of Women and Men

Two members of the producer group are women. Other women follow the lead of their spouses in technical decisions. The project business advisor will promote sharing of information between both spouses in each family regarding the business plan.

8. Environmental Summary

Pesticide use and safety: The plantations will be managed according to the protocol with Argentina and Bolivian authorities. A sector-wide program involving aerial sprayers, exporters, grower organizations, agrichemical companies, public authorities and others will train personnel and monitor use of pesticides as well as promote practices using reduced spraying.

Water treatment: Water will be treated after washing fruit in packing plant.

Waste management: Organic residues will be shredded and returned to fields as compost.

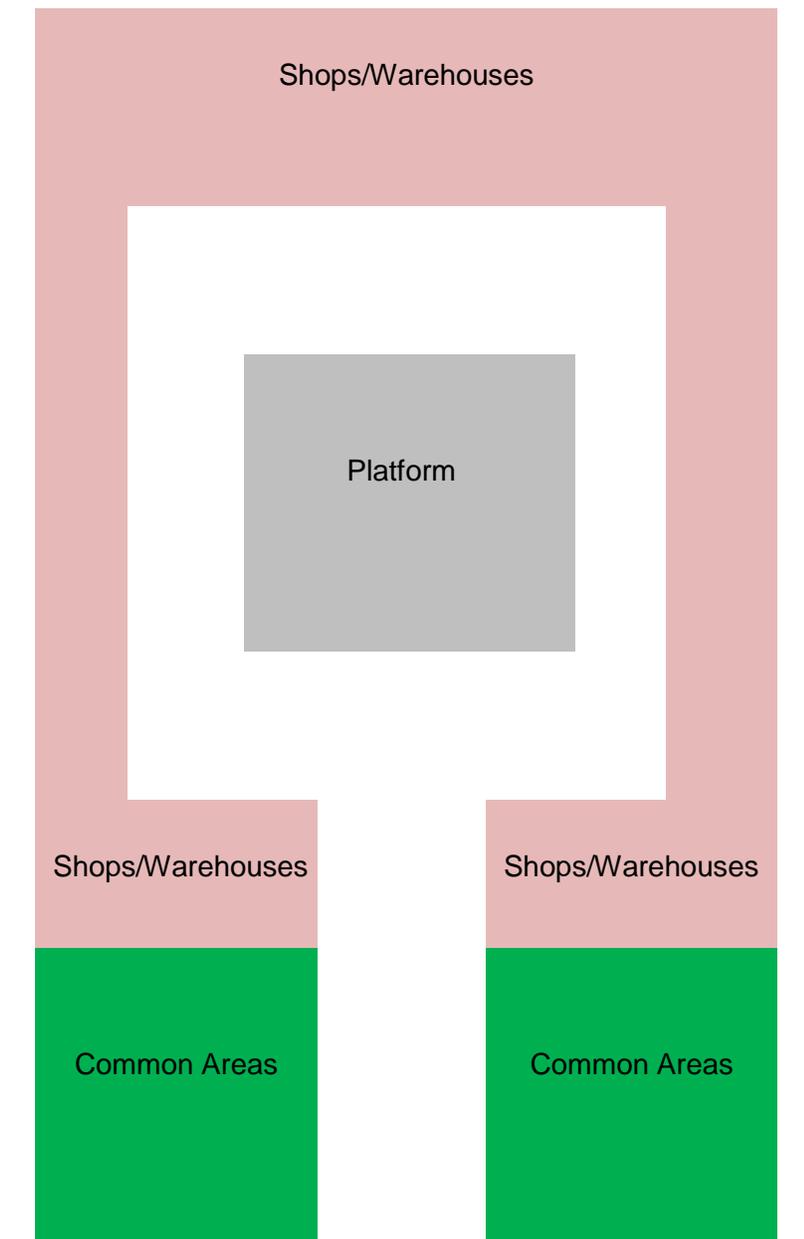
Inorganic waste such as plastic bags will be sent for recycling.

Land use: The entire 50 hectares for plantations are classified for agricultural use and have been in cultivation for more than five years.

Appendix-3 Layouts for Wholesale Markets

This appendix is meant to complement the proposals in Section V regarding alternative physical layouts for marketplaces. A typical layout for *Mandis* in much of Pakistan has common areas in the front of the market, with shops surrounding the trading platform. A single entrance/exit is used for trucks entering the *mandi* for unloading at the platform or shops, trucks leaving, either loaded or empty, entrance of shoppers—retailers and consumers—and exit of goods, often carried by hand. In larger terminal markets in cities, hundreds or perhaps thousands of shoppers frequent the market during early morning hours, creating congestion on the main access road in front of the marketplace and the single entry road into the market.

TYPICAL MARKET (MANDI) LAYOUT



ACCESS ROAD

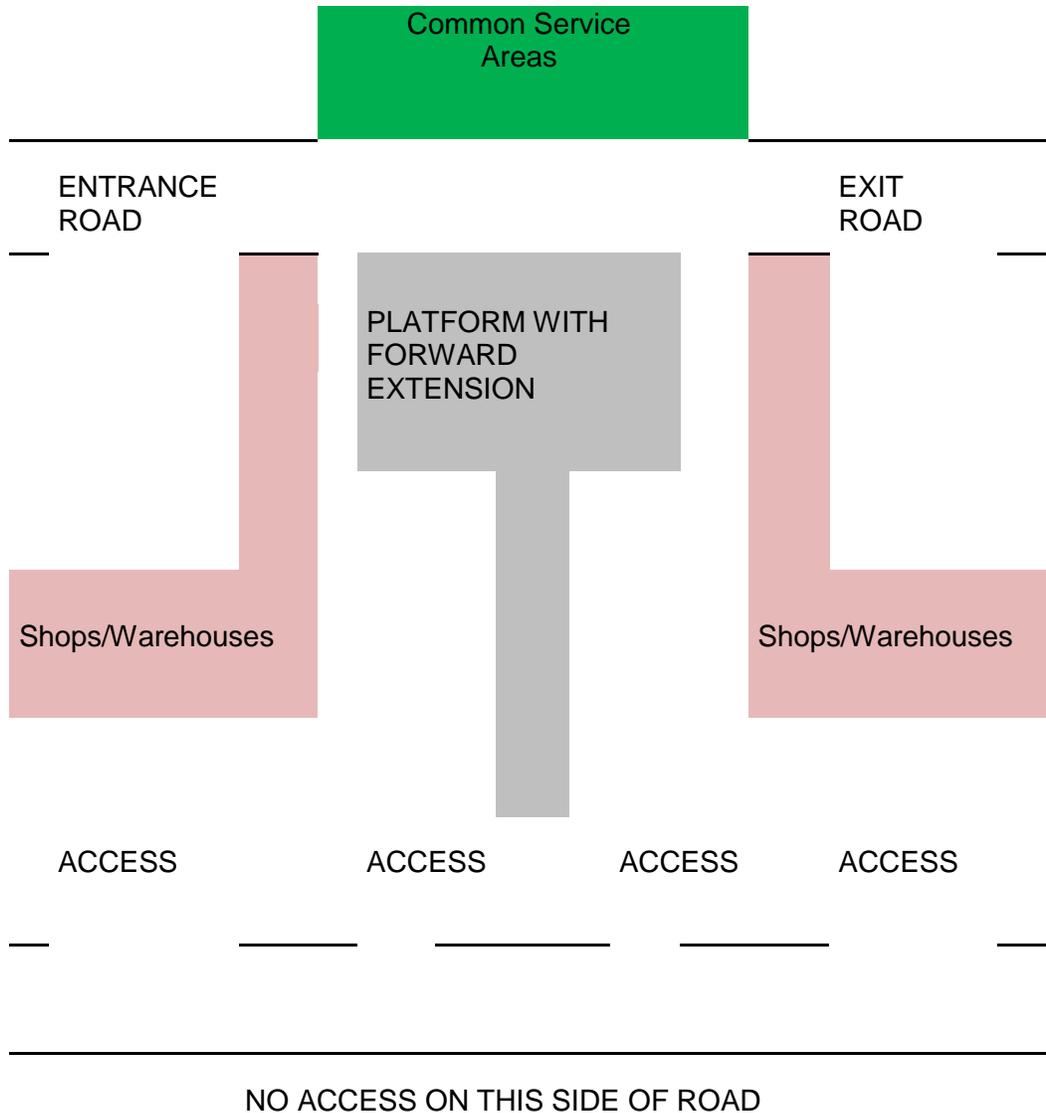


Shops and Common Areas
Outside of Market

The marketing layout and system makes no allowance for wholesale trade. Therefore wholesalers operate on the streets in front of the platform, and in front of the marketplace in shops and common areas outside of the market. The areas surrounding the trading platform at the back of the market are often vacant, even during peak trading hours. Therefore, the sparse public facilities are under-utilized, while space on the street in front is congested.

Below is a concept for a terminal market catering to many shoppers at peak hours. In roughly the same space, maximum attention is given to providing access to the market facilities, while restricting access on the far side of the street. This measure is meant to limit congestion on the access road.

IMPROVED LAYOUT
TO BE DETERMINED AFTER FEASIBILITY STUDY



In the improved layout, trucks enter from the rear of the *mandi* and exit without the need to turn around. Therefore, the road at the rear is one-way only. The forward extension in front maximizes use of the trading platform, intended for use by wholesalers selling primarily to retailers. Therefore, the platform at the front should be aligned at a height of delivery vans, while the road at the rear should be lower to facilitate trucks. The platform itself should be of one level to accommodate use of trolleys. With ease of access at the front for facilitating purchase and loading, shoppers will take much less time at the marketplace. Not only is congestion minimized, but also the difficulties of obtaining products and hidden costs to retailers are reduced.

The above is intended to be conceptual. Each market layout depends on its intended uses and space available. Other design concepts may be more appropriate for different kinds of marketplaces. For instance, the Asian Development Bank has proposed a design concept appropriate for transfer markets where trucks deliver produce from the field and other trucks are loaded for distribution to other marketplaces.

Appendix-4 Agriculture Market Policy Matrix for Balochistan

POLICY FRAMEWORK			
Policy formulation	Formulation of clear policy on agricultural market development incorporating best international practices and private sector participation	Adoption and implementation of policy by the provincial Government	Policy to be submitted by Agriculture Department to the provincial cabinet. This policy to either be derived from, or reflective of, the preamble of the proposed law
Liberalization and deregulation	Deregulating agricultural produce markets	<ul style="list-style-type: none"> Eliminate notified market areas and produce Eliminate arbitrary system of licensing of market functionaries 	APM Act to be replaced by modern and liberal legal framework initiated by the Agriculture Department and transmitted via the Law Department
Delegated Legislation	Developing a comprehensive procedural and substantive framework for implementation of the APM Act	Notify relevant Rules and model by-laws for implementing the proposed APM Act e.g. Reporting Rules, Accounts Rules, Registration Rules, etc.	In order to notify necessary subordinate legislation to cover procedural and substantive matters, the Provincial Agriculture Department to transmit draft Rules and model by-laws to the Law Department
Functional Realignment	Disaggregate public sector's role into four levels: 1) Policy Making, 2) Coordination Participation, 3) Technical and Regulatory, and 4) Development Programs	Instead of engaging in direct management and administration of markets, the Government shall be capacitated to focus on formulation and oversight of implementation of the agricultural produce market policy, and to provide facilitation and support services for sector development	<ul style="list-style-type: none"> Defining a clear role for government to formulate policies and to oversee their implementation in proposed legal framework Inserting substantive provisions in the proposed legal framework to ensure that the business of government is geared towards public welfare, facilitation and promotion of sector development

INSTITUTIONAL DEVELOPMENT			
Coordination and Participation: Facilitation with Stakeholders	Developing a sustainable entity to coordinate and oversee the reform process within the province	Establish a provincial agricultural produce marketing board to guide and oversee the reforms, coordinate among agencies at the provincial and national levels and to facilitate implementation with stakeholders	Summary for constitution and composition of such entity to be initiated by the Provincial Government and to be approved by the Chief Minister
Technical and Regulatory: Knowledge Management	To fill the information gap regarding efficient performance of agricultural produce markets	Enjoin Department of Agriculture marketing wing to: Generate database for market management and performance monitoring Provide regular and authentic information relating to price and availability of produce	Insert legal obligation to initiate surveys and gather and disseminate data in the proposed law. The said data to be accessible to the public and all market functionaries subject to payment of nominal fee
Development Programs: Capacity Building	Building human and technical resources	Establish and oversee a provincial agricultural marketing development corporation through public/private partnership that provides training to carry out functions of market management, standardization, regulation, and sector development	Creating the capacity to implement the provisions of the new law by mandating provision of resources necessary for carrying out functions
Standards and Infrastructure	Establishment of standards for quality and safety	The Department of Agriculture to propose appropriate standards to cater for infrastructure, services, sanitary conditions, grading, labeling, etc. for approval of board. The development corporation should develop model designs and specifications for infrastructure.	Proposed legal framework to include powers of Government and procedures to issue, review and enforce a range of minimum acceptable standards for infrastructure and services
MARKET MANAGEMENT			
Transitional Arrangements for Two Existing <i>Mandis</i>	Eliminating the monopoly and rent seeking behavior of existing market committees and improving market efficiencies through modern management structures and practices	Establish independent entities for each market with the capacity to outsource the management of existing public markets to specialized service providers via a performance based contracts	The proposed law to contain clear provisions for the dissolution and reconstitution of committees into professionally managed companies which are fully competent and capacitated to advertise and receive bids to enter into agreements with a service provider
Feasibility Studies for New <i>Mandis</i>	Tailor management structure and operation to suit needs of each new <i>mandi</i>	Department of Agriculture develops terms of reference for each feasibility study for new markets working in conjunction with investors and traders and market users.	Studies based on requirements of each new market. Needs assessment of existing markets Modification or adjustments to infrastructure carried out in collaboration with the private sector users.

Professional Management and Maintenance	Ensuring well managed and maintained markets with timely and regular services and maintenance of assets	Outsource the management and maintenance and related functions in existing public markets to specialized service providers via a performance based contract	The proposed draft law to contain clear provisions for the constitution of professionally managed companies which are fully competent and capacitated to advertise and receive bids to enter into management contracts with a service provider
Revenue Generation	Creating sustainable markets by making them self-financing, able to generate revenues to cover expenditures	Limit market revenue to approximately 1% of value of produce Levy maintenance fees based on allocated space in the market	Insert a schedule of fees receivable against the provision of specified services in the new legal framework
Financial Management	Ensuring transparency and prudence in revenue collection and expenditure	Mandate the generation of regular reports on the income and expenditure in a market	The proposed draft law to contain substantive provisions that compel the generation of authentic and verifiable financial reports which will be accessible by the members of the public
ROLE OF PRIVATE SECTOR			
Providing sufficient space for private sector participation	Creating an enabling environment for private sector to establish and operate markets	Limiting the role of public sector marketing Allowing the private sector to undertake agriculture produce marketing	Denotification of existing notified areas and notified agricultural produce Dissolution of existing market committees Facilitate the establishment of a Trade Organization/Chamber of Agriculture in the province
Ensuring participation of private sector	To facilitate the private sector to play a larger role in APM	Provincial agricultural marketing development corporation to support the private sector by carrying out business plans Matchmaking by identifying vendors interested in promoting quality and facilitating their contact with producers	Encouraging and incentivizing the private sector to engage in agricultural produce marketing Based on business plans, provide financial and technical support on specific design/operational aspects
Development of alternate market channels	To enable non-conventional private market channels to operate and flourish	Removing barriers to entry and exit of the private sector	The proposed draft law to contain substantive provisions for enabling innovative and non-conventional market channels which would enable the establishment and operations of private facilities for grading and packing, distribution, farmers markets, organic markets, etc. by the private sector

Appendix-5 Primary Person Interviewed or Participating in Discussion

Quetta:

- [REDACTED], CEO MKR Fruit Export Company
[REDACTED]
[REDACTED]
- H. Baloch, Secretary of the Quetta Market Committee
- [REDACTED], Dittu Corporation
- [REDACTED], ACS
- [REDACTED], Sec. Balochistan Planning and Development
- Mr. Saleem Sadiq, Balochistan Secretary of Agriculture
- Mr. Aslam Shakir, Balochistan Secretary of Livestock
- [REDACTED], Chief Foreign Aid, Planning and Development

Karachi:

- [REDACTED] Deputy Director Agrimarketing, Singh Provincial Government
- [REDACTED], Secretary to the Government of Sindh, Agriculture Department
- [REDACTED] – Deputy Secretary (Department of Agriculture, Government of Sindh)
- [REDACTED], Director, Planning and Development Department, Government of Sindh
- [REDACTED] – Programme Coordinator, Planning and Development Department, Government of Sindh

Lahore:

- [REDACTED] Ahmad, Director, Punjab Institute of Agricultural Marketing, Lahore

Islamabad:

- [REDACTED], Fruit and Vegetable Distributor

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