







GROWTH FOR RURAL ADVANCEMENT AND SUSTAINABLE PROGRESS

Agricultural Market Information in Sindh and Balochistan











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Acronyms

AMIS Agriculture Marketing Information System

BAMIS Balochistan Agriculture Marketing Information System

GDP Gross Domestic Product

GRASP Growth for Rural Advancement and Sustainable Progress Programme

MIS Market Information System

MPI Market Price Information

MSME Micro, small and medium-sized enterprise

1. Introduction

1.1. Programme background

The agriculture sector plays a key role in the economic growth and the development of the Sindh and Balochistan provinces. The sector is the greatest source of employment in Balochistan (65%¹ of the labour force) and contributes to 54% of the province's GDP. Almost half (45%) of Sind's labour force are connected to agriculture, despite that the sector accounts for only 17% of the gross provincial product (GPP)².

Majorities of the farmers in Sindh and Balochistan provinces are smallholders living in isolated rural areas, and thus lack appropriate access to markets for their products. They need to rely on intermediaries (middlemen) to sell their products on markets. They are not informed about market prices that could improve their power of negotiation with middlemen. Often, they are not aware of good agricultural practices, and they lose part of their produce before selling it or they do not produce high quality products. As a lack of these, smallholder farmers receive low prices for their agricultural produce and face difficult livelihoods.

Transparency and availability of reliable and up-to-date market information are important elements to improve the situation. To be effective, this information needs to be easily accessible by all agricultural stakeholders including smallholders farmers with low level of literacy and no access to the Internet. The high rate of mobile phone usage³ for agricultural services reveals the existing potential for the development of ICT-based tools to support the dissemination of agriculture market information including prices.

The inception phase for the implementation of a Market Information System (MIS) in the Sindh and Balochistan provinces was carried out from February to April 2020. Interviews and consultations were conducted among stakeholders involved in the commercialization of the GRASP selected products to get a full picture of the situation. The following table provides a list of these products for the two provinces.

Table 1: List of GRASP priority products

| Balochistan | | | Sindh | |
|-------------|--------------|-----------|--------------|--|
| Livestock | Horticulture | Livestock | Horticulture | |
| Goats | Grapes | Beef | Dates | |
| Sheep | Dates | Dairy | Mango | |
| Poultry | Onions | Goats | Bananas | |
| | Olives | | Onion | |
| | | | Tomatoes | |

¹ FAO (2015). Women in Agriculture in Pakistan.

² Compared to 47% and 35% respectively for the services and industry sectors in Sindh. Ishrat Husain (2013), The Economy of Sindh. Concluding keynote address.

³ The results of a survey carried out during the inception phase of GRASP (2019-2020) showed that 80% of the farmers in Sindh primarily use their mobile phones to access market price information.

1.2. Objectives and methodology

The objective of the inception phase was to carry out a needs assessment of agricultural market information to be provided to farmers, traders and government. It was also a review of the current situation. Based on these results, the report provides recommendations for the implementation of Market Information System (MIS) in the two provinces.

The review of existing MIS was carried out in Sindh and Balochistan and as well as in Punjab. The Punjab MIS is a good reference in various aspects including project sustainability and information coverage. The intention was to highlight the best practices and the strengths of the Punjab system that could be leveraged to achieve the objectives of MIS implemented under the GRASP programme.

A number of consultations with key stakeholders have been conducted from February to April 2020, to design a project implementation framework. Key stakeholders include representatives of the Department of Agriculture, and the Livestock Department of Sindh and Balochistan, farmers and traders associations, market committees and services providers like telecom companies. The full list of stakeholders is provided in the Annex 1 of the report.

2. Agricultural market structure in Sindh and Balochistan

2.1. Horticultural sector

2.1.1. Sindh

Although the Sindh province has enacted The Sindh Whole Sale Agricultural Produce Markets (Development and Regulation) Act in 2010, the act is still on hold, and it is the Agricultural Produce Markets Act, 1939 that is applicable. Currently, 70 markets committees are operationnal in Sindh, which have established various types of agricultural markets (cf. Table 2), under the provisions of above mentioned Act. About 350 officers or officials are working in these market committees, including the Secretary, the Chief Inspector and the Inspectors, who are mandated for the markets monitoring, the collection of market fees, and the recording of daily market prices of different produces.

The Government of Sindh has taken steps towards reforming the present marketing system, through its Sindh Whole Sale Agricultural Produce Markets (Development and Regulation) Act, 2010. This Act allows the establishment of private sector wholesale agricultural produce markets and should facilitate the development of competitive and transparent wholesale markets.

Horticultural products are traded in open-auction markets established by the government of Sindh. With the market network in Punjab, the network in Sindh is one of the largest in the country. However, a proper and organized Agricultural Marketing Information System (AMIS) is not yet in place. The market prices are being collected manually on papers.

There are 14 major horticultural markets in the districts selected for GRASP. The information on these markets are presented in the following table. Major wholesale markets are located in two main cities, Karachi and Hyderabad, whereas medium and small-sized markets are located in the rest of the districts.

Table 2: List of Horticulture wholesale markets in the GRASP selected districts of Sindh

| District | Name and location | Sectors/Products | Status / remarks |
|------------------------|---|---------------------------|--|
| Karachi | New Fruit and Vegetable Market Motorway Karachi | All fruits and vegetables | |
| | New Agriculture Market, Halla Naka Hyderabad | All vegetables | |
| Hyderabad | Old Fruit and Vegetable Market at New Bridge Hyderabad City | | |
| Mirpurkhas | Fruit and Vegetable Market Mirpurkhas City | | |
| Tando Allahyar | Fruit and Vegetable Market bypass Tando Allahyar City Fruit and Vegetable Market at | | Operated by the |
| Tando Ananyai | Sultanabad | All for the | Agriculture Marketing Government of Sindh. |
| | Fruit and Vegetable Market Sanghar City | All fruits and vegetables | |
| | Fruit and Vegetable Market Tando Adam City Bypass | | |
| Sanghar | Fruit and Vegetable Market Shahdadpur City | | |
| Sangnai | Fruit and Vegetable Market Sinjhoro City | | |
| Shaheed Benazirabad | Fruit and Vegetable Market Nawab shah City | | |
| | Date palm wholesale market Khaipur Khajoor Mandi | Date palm | Established through public and private partnership |
| Khairpur | Date palm wholesale market In Kotdigi City | Date palm | Not operated by the Agriculture Marketing Government of Sindh. |
| Sukkur | Date palm wholesale market Qadirdad Chohara Mandi Rohri City | Date palm | Covers the neighbouring districts and is operated by the Agriculture Marketing Government of Sindh |

Source: Directorate General of Agriculture Development Sindh

2.1.2 Balochistan

The government of Balochistan has adopted rules and regulations to ensure the enforcement of the Agricultural Produce Markets Act, 1991, which was amended by the Act 2004, and the Agricultural Produce Market General Rules, 1995. This Act regulates the trade of agricultural products, and the establishment of markets in the Balochistan province.

For every notified market area, the Balochistan government sets up a market committee. The market committee is the authority to issue licences to market actors, and its duties and composition are set out in the Act.

During the last few years, the Balochistan government has been focusing on improving the fruits and vegetables marketing system, in order to increase volumes of products traded particularly with the other provinces in the country. The Directorate of Economics and Marketing of the Agriculture Department of Balochistan supports and regulates the horticultural markets in the province. The department is also responsible of the development of the Balochistan Agricultural Market Information System (BAMIS), the collection and compilation of market prices, and the implementation of prices control measures.

According to information gathered from the Agriculture Department of the Government of Balochistan, there are 13 major agricultural markets in the province. Among them, 6 markets are fully operational (in Quetta, Dera Murad Jamali, KillaSaifullah, Loralai, Khuzdar, and Usta Muhammad). Seven markets are under construction.

There is only one horticultural market in the GRASP selected districts, which is located in Quetta (Hazar Ganji Fruit market). The products are traded according to an auction system. Many traders in this market purchase directly their products from farmers in other districts.

The other districts (Zhob, Musakhel, Pishin and Nushki) depend on traders and contractors from Quetta, but also from other parts of the country (mostly from Sindh and Punjab). Farmers sell their produces (pre-harvested and post-harvested) to the contractors, or directly to shopkeepers and commission agents.

2.2. Livestock sector

At the moment, there is no official livestock marketing system in the provinces of Sindh and Balochistan. Animals are sold per head or per group between the different agents involved in the markets, and there is no reference price. These agents are mostly producers, wholesalers, commission agents, butchers and consumers. Markets are generally owned by private operators, and are organized on a daily (in Balochistan), or weekly basis (in Sindh). In each market, entrance fees are generally collected from sellers bringing live animals. In some markets, these fees can be based on the value of the animal, whereas in others it is fixed amounts. A list of main livestock markets in the GRASP selected districts are presented in the Annex 2 of the report.

Wholesalers usually buy animals in town markets and bring them to the major consumption centers. Commission agents either sell animals on behalf of the wholesalers, or buy animals on behalf of butchers. Consumers buy live animals usually during Eid Al Adha, weddings, Haj (pilgrimage) etc.

There is no reference price for live animals. Prices are negotiated between the seller and the buyer, and depend on various attributes (i.e. species, health status, age of the animal), weights and general appearance. Other factors can also play a role in the prices such as the location of the market where the animal is sold, the distance and transport costs. Therefore, variations exist in the prices of livestock, as there is no grading and classification system. In addition, as each transaction is based on negotiation, prices may vary in the same category of livestock and within the same market.

3. Overview of the current market information system

3.1. Sindh

In 2007, an Agriculture Marketing Information System (AMIS) was established in the Directorate of Agriculture Marketing Sindh Hyderabad, and funded by the Federal Government Agricultural Sector Program Loan 2 (ASPL2).

The AMIS aimed at providing comprehensive one-step market price information services to wider audience and reducing the influence of intermediaries in the market price through artificial shortage and price hike. It was set up to collect and disseminate market prices through two main channels: a publicly accessible website and a set of information screens installed in the local markets premises. Market prices were also presented in bulletins distributed to public and private sector organizations.

The website is no longer operational after being running for two years. The main reasons were the lack of available resources allocated to the development and maintenance of the system, and the lack of incentives to finance the staff mandated in the collection of prices data.

In 2020, in main markets, the representative of horticultural market committee manually records the lots, their sizes, auction price, amounts of commission charges and number of traders in the market on daily basis. Wholesale and retail prices are then processed and consolidated by the directorate of Agriculture Marketing in a shape of market price bulletin on daily basis. The collected information is accessible to a limited number of farmers, shopkeepers and traders involved in the business. Most of the information received by farmers or traders is verbal

ICT Agricultural Extension Services Center, Directorate General Agriculture Extension Sindh is working with the team of Agriculture Marketing Sindh Hyderabad to develop an android application to ease and speed up the prices data collection and calculation procedures.

Regarding livestock sector, market information are manually collected by operators. However, it rather covers statistics on the type and number of animals entering the market, the market fees and the number of animals sold. The objective of this collect of information is for tax purposes. Therefore, there is no proper and official system to collect prices of the livestock products. This is primarily due to the fact that local markets are usually managed by private persons, who rather monitors and encourages the payment of service fees by market actors, than providing market prices.

3.2. Balochistan

In 2017, the Directorate of Agriculture Economics and Marketing implemented the Balochistan Agricultural Marketing Information Service (BAMIS) website in collaboration with the University of Balochistan. The BAMIS is a web-based system which provides beneficiaries in private sector with market information that are relevant to their purchasing and sales decision. For the government, the system was designed

to automatize the data collection system and reduce delays and costs related to transmission and dissemination of information.

The BAMIS was implemented with the support of the Food and Agriculture Organization (FAO) and financing from Australian Aid. It was planned to be rolled out in two phases, the second one would be the improvement of the system in place. According to the Directorate of Agriculture Economics and Marketing, only the first phase of the project was implemented. This phase includes a web-based system which is now operational and provides information on market prices.

The system is managed by the Directorate of Agriculture Marketing Balochistan, which collects and disseminates information of commodity prices from agricultural markets, in partnership with agriculture market committees. For every product, auction prices are collected on a daily basis from five different vendors. The officials mandated in the price data collection and uploading processes are financed by the budget of market committees.

The BAMIS web site is still active and horticultural prices collected from Quetta market are uploaded on a daily basis but issues related to the web site not being user friendly and taking a long time to load have been mentioned by different stakeholders. The data sheet for price collection requires to be completed before saving, and many times, this data sheet cannot be saved due to fluctuations in the internet connection. The web site is partially functional and does not serve all the purpose. The Department of Agriculture (DoA) also faces issues in maintaining the BAMIS website due to a lack of technical knowledge in DoA staff.

Although the BAMIS was planned to provide prices from several markets in the Balochistan province, only the Quetta market is now covered, with more than 70 types of horticultural products including fruits, vegetables and grains. For the time being, prices are disseminated only through the website. The mobile application system which was initially planned is not yet implemented.

Regarding the Livestock sector, there is no standardized and formal prices collect procedures in place. Usually, market actors share the prices information with each other. In some cases, the information is collected under various government projects and is primarily used for statistics in different publications, booklets and brochures. Data on milk and meat prices is reported in annual government publications.

3.3. Punjab

The Punjab Agriculture Information System was implemented in order to reduce market imperfections and agricultural prices fluctuations. The Agriculture Department of Punjab collects and disseminates prices of agriculture commodities on a daily basis, from 135 markets located across the province. In 2010, in addition to local market prices, AMIS Punjab started to also collect and disseminate international prices. By providing information on local and international markets, the AMIS of Punjab allows a

comparative analysis between international and national commodity prices. The system also provides information regarding agricultural marketing in analytic reports and newsletters. This information is disseminated through different type of channels:

- Website (Urdu & English) www.amis.pk,
- Daily Mobile SMS (e-mandi)
- Toll free No. 0800-51111
- E-mail
- Android application
- Digital Electronic Rates Boards
- Radio Pakistan
- Newspapers
- T.V channels (Sohni Dharti)
- Monthly Agriculture Marketing Roundup

The following sections present the experience and lessons learnt from the implementation of the AMIS in Punjab.

- Setting up an effective tool and system of gathering information is a major challenge, which requires a detailed planning and designing strategy. Having available human resources and skilled team at initial stages of the project is among the key advantages to address issues in the implementation of the system and to achieve greater impact. In Punjab, the system was owned by the high ups in the Government such as Chief Minister, Punjab IT Board, Secretary Agriculture and Livestock, and other stakeholders. This high level commitment resulted in effective outcomes
- Without an access to up-to-date and reliable price information, farmers are less likely to benefit from the market competition. The quality and regularity of the information provided matter.
- Regarding sustainability, an evaluation process after a first period of implementation should be carried out to investigate different options to finance the management and maintenance of the system. Following positive evaluation results, the system has been considered as a global public goods and it is now financed by the Punjab government on a regular budget. Sixteen persons are involved in the management of the AMIS in Punjab.

4. Needs assessment

The poor quality of market infrastructure, the lack of transparency in the marketing system, the climate change and the lack of water, the un-forecast storms, the difficulty to access finance, the cost and the quality of fertilizers and the locust plague are some of the main concerns expressed by stakeholders in Sindh and Balochistan during the inception phase.

The needs assessment related to market information has highlighted the following points:

- In the two provinces, farmers associations have identified market prices, market news, weather forecast and alert, and crop advices in English and the local languages as the most relevant information. In Balochistan, all the stakeholders have expressed an interest to get market prices from other provinces, particularly from Sindh, as a big part of their production goes to Karachi.
- For the moment, the price information disseminated through web sites, mobile application or WhatsApp groups in the provinces does not make a price distinction according to the quality of products. All the stakeholders in the two provinces agree that dissemination of price information by quality criteria will foster the interest in investing on better quality products. They also mention that the collection of such detailed price information would necessitate additional human and technical resources.
- Regarding the price information for cattle, the stakeholders mentioned that it is currently not collected in both provinces. Indeed, adequate infrastructure and resources for information collection and dissemination is not in place. However, some farmers associations could provide such information, but it would necessitate some additional human and technical resources.
- In the both provinces, farmers associations have mentioned their interest to access contact details of traders and input suppliers to identifying potential trade partners.
- Traders from both the provinces that already export, or plan to export, have expressed their interest to get more information about international markets, such as market demand, competition, customs tariffs, SPS requirements, and applicable technical regulations.

5. Future AMIS in the GRASP framework

GRASP will build upon ITCs experience on price information, and the experience of the Department of Agriculture on collecting prices, to implement an efficient AMIS in each of the two provinces. The AMIS web site will be developed for Sindh, and the existing web site for the Balochistan will be revamped. Some bridges between the two web sites will facilitate the dissemination of information between the Sindh and the Balochistan AMIS platform.

Telecommunication providers such as Jazz and Telenor have already developed their mobile application to disseminate market information, but this is mainly in the province of Punjab. In Sindh, the Agriculture Extension Service Centre is working on a mobile application for broadcasting such market information. Within the framework of GRASP, the dissemination of market information through mobile will leverage on existing applications. Ease of implementation, flexibility, value added services and sustainability will be the main criteria for selection of the mobile application.

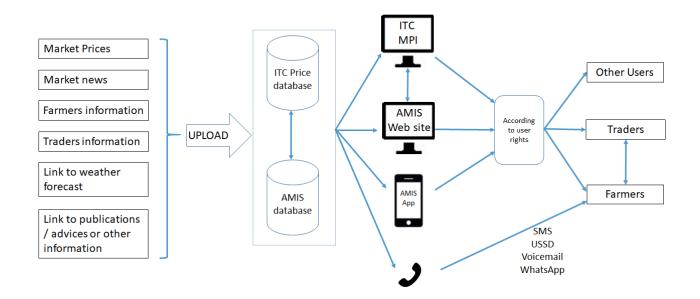
During the implementation phase, the MIS will focus on priority products and districts selected under the inception phase for the two provinces. Following the implementation and the validation of the system, additional products and districts will be uploaded if the market information for these products and districts isavailable.

AMIS web site will provide the following information:

- Up to date market price information for priority products selected for Sindh and Balochistan. If detailed data is available ny product characteristics like variety, quality, type of certification or package, the price information will be accessible from detailed to more consolidated level
- Market news
- Farmers' data the first dataset will be uploaded from the existing Agribusiness Support Providers (ABSP) databases and depending on the availability of data it will contain contact details, geolocation, surface of production, harvest period, quantity produced, certification, etc.
- Traders and input suppliers data Similar to farmers', the first dataset will be uploaded from the existing ABSP databases. Depending on the data availability, it will contain contact details, products traded, turnover, etc.
- Access to weather forecast and alert
- Access to publications, good practices, and crop advises related to priority products

The AMIS web sites will also leverage on ITC web applications like Market Price Information (MPI), Trade Map or Market Access Map to provide local stakeholders with international market prices, international trade statistics, customs tariff, and non-tariff measures applied by other countries for the selected products. ITC MPI will also provide more visibility to local markets by disseminating on its platform Sindh and Balochistan market prices as well as information about local stakeholders. The below figure describes a potential flow of information:

Figure 1: MIS flow of information



The collection of price information for horticultural products will rely on the system already in place by the Department of Agriculture in Balochistan and Sindh. Regarding the livestock sector, new approaches such as partnerships with farmer associations will be setup in close collaboration with the Department of Agriculture.

In the both provinces, the Department of Agriculture will be the main focal point for the AMIS implementation. Regarding the sustainability of AMIS, different options will be investigated for the financing and maintenance of the system, keeping in mind the durability of AMIS after the completion of the project. The first option would be to seek public sector finances. AMIS would be considered as a global public good that enhances the overall marketing and agricultural growth in the province. One year after the implementation of the system, a survey will evaluate the AMIS outcomes. Depending on the results of the survey and the commitment from the public sector, a second option, ith the participation of the private sector will be assessed. Some private companies could be interested in promoting their products through AMIS and pay for this service.

The following activities will be implemented in the next five years:

- Set up partnerships for the collection and dissemination of market information and the AMIS management The aim of this activity is to establish long-term partnerships with data contributors for populating AMIS (farmers and traders associations, market committees, etc.) as well as with service providers for additional information (such as weather forecast). In addition, discussions will be carried out with telecommunication and ICT providers in Balochistan and Sindh regarding the development of mobile applications.
- Create functional specifications for the system in close collaboration with ABSPs. The functional specifications include system architecture, which

- describes how the data will be collected and disseminated among users, the roles of the different actors, the registration process, the functionalities and modules, the technologies to be used, and the hosting of the system, etc. A mock-up of AMIS will be prepared and shared with stakeholders for feedbacks and validation.
- ➤ Develop and implement the online system, and an up to date mobile application. This development will take into account the specifications validated by the stakeholders. All the static information will be translated into the local languages Urdu and Sindhee. Once the system is fully implemented and tested, the population of AMIS with users and prices data as well as the other types of information will start.
- ➤ Train local stakeholders on system management: This activity will take place once the entire system is operational. ITC will develop a communication plan and training programmes for the management and use of AMIS (admin tasks, user registration and user management, prices uploading, prices validation, etc.). This first round of trainings will target ABSPs in priority but also potential trainers from various public organizations.
- ➤ Launch the system and conduct an awareness campaign: This activity will take place after the development of communication plan. Launch events will be organised in the two regions with training sessions for AMIS users (farmers, traders, and other groups of potential trainers). Awareness campaigns through relevant communication channels will also be conducted.
- ➤ Evaluation of MIS: The evaluation of the MIS utilization will be carried out in the two provinces one year after the official launch. It aims at identifying the strengths and weaknesses of the system, and assessing the needs for additional services. The sustainability of MIS will also be evaluated during this period.
- Adjustments and implementation of additional services: Based on the result of the survey and feedback, some proposals will be made to enhance the usefulness of MIS and increase the number of users. The implementation of additional services will also be investigated, like online shop or e-credit in partnership with local providers. AMIS will be developed in a way that integration with other systems will be possible. If needed, some adjustments in the AMIS management will be implemented to reinforce the sustainability of the system.

Annex

Annex 1. List of Livestock markets in the GRASP selected districts Sindh

| District | Number of Markets | Frequency | Nb. of public sector operated markets | Nb. Of private sector operated markets |
|-------------------------|----------------------|---------------|---------------------------------------|--|
| Karachi | 3 | Multiple days | 1 | 2 |
| Hyderabad | 2 | Weekly | | 2 |
| Thatta | 4 | Multiple days | 1 | 3 |
| Tando Muhammad Khan | 3 | Multiple days | | 3 |
| Tando Allahyar | 2 | Weekly | | 2 |
| Mirpurkhas | 4 | Multiple days | 1 | 3 |
| Matiari | 3 | Weekly | | 3 |
| Sanghar | 5 | Multiple days | | 5 |
| Shaheed Benazir Abad | 4 | Weekly | | 4 |
| Khairpur | 4 | Weekly | 1 | 3 |
| Total | 34 | | 4 | 3 |

Source: Livestock Department of Sindh

Balochistan

| Market Location | Destination | Mode of Transport | Species |
|---------------------------------------|--|-------------------|--|
| Sibi (South-East) | Karachi, Hyderabad, Sukkur and Parts of Punjab | Road/Rail | Sheep, goats, cattle, camel and pack animals |
| Bella, Doreju, Kanraj (South-West) | Karachi (Sindh) | Road | Sheep, goats, cattle |
| Rakhni (North-East) | Lahore (Punjab), Faisalabad (Punjab), Multan(Punjab) | Road | Sheep and goats |
| Kuchlak Quetta (North-West) | Quetta city, Karachi (Sindh) | Road | Sheep, goats and cattle |

Source: Livestock Department of Balochistan

Annex 2. List of organizations met during the needs assessment

Sindh

| Name | Purpose |
|---|---|
| Jazz & Bakhabar Kissan Telecom Company | Discuss potential contribution for development, hosting, sustainability |
| Department of Agriculture, Supply and Prices Government of Sindh: Additional Secretary Technical, Additional Director General Information and Additional Director Marketing | Discuss different options for MIS in Sindh including sustainability, needs and resources. |
| Pakistan Fruit and vegetable exporters, importers and merchants association | Needs assessment (type of information, technology used to send the data, frequency of data dissemination, etc.) |
| Pakistan Mercantile Exchange PMEX | Looking for synergies with their project |
| Telenor Telecom Company | Discuss potential contribution for development, hosting, and sustainability |
| Dairy & Cattle Farmers Association Karachi & Progressive dairy grower from Hyderabad | Needs assessment (type of information, technology used to send the data, frequency of data dissemination, etc.) |
| Agriculture Extension Sindh along with Agriculture marketing & ICT Agricultural Extension Services Center teams | Discuss about different options for the MIS in Sindh, including sustainability, needs and resources. |
| Chamber of Agriculture (Farmers Organization) & Sindh Abadgar Board | Needs assessment (type of information, technology used to send the data, frequency of data dissemination, etc.) |
| Sindh Mango Growers & Exporters (SMGs) | Needs assessment (type of information, technology used to send the data, frequency of data dissemination, etc.) |
| Centre for Agriculture and Bioscience International (CABI) Sindh Office | Discuss synergies with their project |
| Representative of Engro Dairy Project | Discuss about Livestock sector and marketing in Sindh |
| Representative of Department of Agricultural Economics, Sindh Agriculture University Tandojam | Discuss about ICT Based Female Agricultural Entrepreneurship Extension Services |
| Input suppliers (Tandoallahyar Seed Corporation, Engro Chemicals) | Discuss about potential partnerships regarding the funding of the MIS |
| Project Director AMIS Punjab | Discuss about AMIS of Punjab (experience and lessons learnt, project next steps and funding) |
| Deputy Director Agriculture Extension Lahore (Directorate General Agriculture Extension Punjab) | Discuss about AMIS of Punjab (experience and lessons learnt, project next steps and funding) |
| Agro-Meteorologist, Meteorology Department Government of Pakistan Islamabad | Discuss about flow of weather information and information sharing |
| Director Agriculture Marketing Sindh Hyderabad | Discuss about agriculture marketing system and AMIS of Sindh |

Balochistan

| Name | Purpose |
|---|---|
| | Discuss the concept of the |
| University of Balochistan | development of this system, strength |
| | and weaknesses. |
| | Discuss different options to strengthen |
| Director General (DG) Agriculture Extension Balochistan | the BAMIS, including sustainability, |
| | needs and resources. |
| FAO representatives working in THazA Project | Looking for synergies |
| Representatives of Small and Medium Enterprises | Needs assessment (type of |
| Development Authority (SMEDA), traders and farmer | information, technology used to send |
| associations | the data, frequency of data |
| | dissemination, etc.) |
| Representatives of Agriculture Marketing & Director | Discuss the experience in the |
| Agriculture Information along with Director General | implementation and management of |
| Agriculture Extension Balochistan | BAMIS, as well as options to |
| | strengthen the system. |
| Traders from Horticulture sector | Needs assessment (type of |
| | information, technology used to send |
| Commission agents | the data, frequency of data |
| | dissemination, etc.) |
| Depresentatives of Agriculture Livesteck and dain: | Needs assessment (type of |
| Representatives of Agriculture, Livestock and dairy | information, technology used to send |
| farmer associations in Quetta | the data, frequency of data |
| | dissemination, etc.) |









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