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Agriculture Policy Implementation Dialogue: Deliberations and Discussions

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Table of Contents

| | |
|--|----|
| Background..... | 3 |
| Dialogue Objectives & Process | 3 |
| Next Steps | 5 |
| Agricultural Situation & Potential | 5 |
| Agricultural Policy Implementation Issues | 7 |
| Constitution, Legislation & State Institutions..... | 7 |
| Investments & Credit..... | 8 |
| Research, Academia & Human Resource Development | 9 |
| Extension Services..... | 12 |
| Inputs | 13 |
| Agriculture Product Price Policy | 15 |
| Marketing & Storage | 16 |
| Trade | 16 |
| Public Private Partnership | 17 |
| Beyond Crops: Rangeland, Horticulture, Farm-Nonfarm linkages | 17 |
| Policy Objectives..... | 18 |
| Appendix: List of Participants | 20 |

Background

Since independence, there has been a number of reports on agriculture but a comprehensive agriculture policy document has never been formulated. In 1961 and then 1988, an Agriculture Commission had been setup but a formalized policy was not forthcoming. In October 2007, the Pakistan Government announced a 5 year Agriculture Policy (2009-2014) though without a comprehensive document. More recently, agriculture has again come into the limelight both in domestic as well as international circles. In January 2010, the Punjab Government said that it would like Punjab to be a bread basket while the Chief Minister setup an advisory council to evolve a policy, adopt it at the provincial level and give recommendations to the federal government. Recognizing the salience of agriculture for the region, a tri-country secretariat (Pakistan-Afghanistan-US) has been established in Islamabad focusing on Trade Corridors, Food Security through Research and Water Management. US Aid and USDA are working together to build a support program for Pakistan Agriculture. More importantly, the Kerry Lugar Bill offers a great opportunity for financial and technical support in agriculture; however, one needs to be cautious and imaginative that this opportunity is not wasted. There was a consensus among participants that no amount of money or foreign help can resolve agricultural issues of Pakistan if domestic stakeholders don't collectively put the house in order.

Dialogue Objectives & Process

The Centre for Public Policy & Governance (CPPG), a leading think tank on policy issues in collaboration with partner institutions including Punjab Agriculture Research Board (PARB) and engaging the Ministry of Agriculture initiated a series of policy dialogues to evolve mechanisms for sustainable and effective policy input. The first dialogue of the series was meant to engage all stakeholders to identify why there had been a lack of implementation and what mechanisms were needed to rectify it. The Policy Dialogue was designed to be a brainstorming session, it helped to put perceived issues on the table and develop a consensus that a collective, incremental approach was necessary to tackle the status quo. The objectives, resources, road map and structure of the dialog series were suggested as follows.

The objective of the series of dialogs is not only to produce a holistic agriculture policy but also to remove the mistrust among stakeholders especially the public and private sectors necessary for discussion and policy implementation. The goal is to formulate a policy following discussion with all stakeholders leading to formalization of the policy by the Government of Pakistan through its adoption by the parliament. It was proposed that a Permanent Commission be setup

to monitor and evaluate the implementation process giving its report every three months. Though a Knowledge Based Agriculture Policy can be written on one page, its implementation would require a detailed document articulating institutional changes, regulatory mechanisms, stakeholder linkages (Academia-Industry) and public sectors' relationship with the farmer, private sector and the market.

The lack of policy is primarily because there has been no demand for policy. Thus lobbying the government and building a political will is necessary to push through the suggested implementation strategy. This may require a 10-20 member volunteer forum, which meets every month to assess and declare the status of agriculture to the media. Additionally partners from within the government would be required to bring about changes in resource allocation in the Ministry of Finance, which holds the key to allocations among ministries.

The dialog process should not be restricted to large cities but involve stakeholders in smaller cities and towns across the country because unless the issues of the farmer are understood and addressed, there can't be much improvement. For evolving a holistic policy, the dialogue should pick aspects where there is a consensus and concentrate on implementing them while other aspects are being discussed and debated. Where further information is required, the dialogue should initiate Actionable Policy Research for an informed discussion before making recommendations.

For improvement, innovation and research in agro based industries Kerry-Lugar Bill offers Pakistan a great opportunity. With a comprehensive and consensus based agriculture policy we can devise projects which centre stage agriculture and integrates water allocation/distribution and agriculture technologies to enhance agriculture production and promote social sector development as envisioned in the Kerry-Lugar Bill. Such an approach would also strengthen and support on going initiatives, such as National Finance Commission Award (NFC), Baluchistan Package and an emerging consensus on redesigning the Local Government Ordinance (LGO) 2001. These are significant steps and demonstrate political commitment and seriousness of purpose of the government of Pakistan, but a bigger challenge exists in operationalizing these demands through appropriately conceived projects and policies. Agriculture policy will contribute towards re-energizing and re-invigorating developmental thrust promoting welfare of peasants, farmers and alleviate poverty.

Next Steps

To work on developing an Agriculture Policy and its implementation mechanisms, the stakeholders agreed that a series of regional dialogues should be held to achieve the objective. As a next step with the collaborative partners, the second dialogue will be held in Multan, third in Hyderabad, fourth in Peshawar and fifth in Quetta. In case of Baluchistan, the federal government in consultation with the provincial government and stake holders needs to explore about such inputs as; expansion of cultivable area, water management, seeds, fertilizers and improved agricultural technologies.

The first five dialogues (Lahore, Multan, Hyderabad, Peshawar & Quetta) are meant to expand on agriculture issues as experienced by stakeholders in different parts of the country along with their proposed solution. This working paper will be used as a starting document for every dialogue and will be updated with the minutes following every dialogue. Following these five dialogs, we will incorporate the findings of Food Security and other relevant documents into the working paper and then begin a process of deliberation through smaller parallel meetings on specific issues with subject area experts among stakeholders to further explore concrete areas.

The deliberations process will conclude with the presentation of a comprehensive report to stakeholders to pave the way for a National Agriculture Policy.

Agricultural Situation & Potential

There are 5.6 million farm households in Pakistan cultivating an area of 50million acres out of a total area of 196million acres. The average farm size is 8 acres and agriculture alone provides 31% of the GDP. But agriculture yields in Pakistan are low and at times have deteriorated over the years as suggested by Table 1. The state resources have primarily been concentrated on larger crops (wheat, rice, sugarcane & cotton) but yields even in these crops are much lower compared to other countries. For example wheat yield in Indian Punjab is 48mnd/acre compared to 28mnd/acre for Pakistani Punjab. Great potential exists as 100,000 progressive farmers in Punjab have yields of 65-74md/acre and even if our yield is comparable to India's, Pakistan can earn an extra Rs. 256 Billion just through wheat.

Table 1: Crop Yields

| Crop | Year | | | | |
|------------------------|------|------|------|---------|------|
| | 1947 | 1999 | 2005 | 2007-08 | 2009 |
| Potatoes (mounds/acre) | 143 | | 135 | | |
| Gram (mounds/acre) | 6.5 | | | 5.3 | |
| Onion (mounds/acre) | 141 | | | 73 | |
| Wheat (kg/hect) | | 2667 | | | 2695 |

Instead because of population growth, Food Security has become a challenge and has actually deteriorated in the last 2-3 years. A daily wage could buy 14kg of wheat flour in 2007, while in December 2009 it could buy only 10kg. As wheat support price was increased, there was also an increase in production but because the price of wheat in Pakistan was 30% higher than the world price throughout 2009, household food accessibility deteriorated especially for poor households who spend 20-30% of their income to buy grams.

The agriculture growth target was 3.8% this year but may achieve only 2.5%, just keeping in pace with population growth rate. Production costs have increased making our products less competitive in the world market and with climate change- resource degradation and the permanent decrease in water after 30-40 years could lead to agriculture devastation if measures are not taken now.

There have also been success stories. Pakistan is the third largest exporter of rice earning \$2B a year in exports but it is still 11th in yield.

Table 2: Cropped Area In Acres

| Crop | Season | Cropped Area |
|-------|--------|--------------|
| Wheat | Rabi | 24 million |
| Rice | Kharif | 6 million |

In Cotton, Pakistan produced 14.7million bales while India produced close to18m bales four years ago. But last year we produced only 13m bales while India moved to 30m bales (mostly of modern seed). Thus we are short of industry's requirement by 2million bales. In 1990-91, Punjab alone produced 11.4m bales while today Punjab produces only 7.4million bales because of consecutive years of devastation by the Leaf Curl virus. Sindh has partly compensated for this decrease by increase in production from 1.4m to 4.5m bales.

Overall, agriculture can be assessed by the living condition of the ordinary farmer. As the farm size is shrinking and the incentive structure (the farmer's terms of trade) is deteriorating, the farmer is getting poorer and increasingly becoming part of the unskilled urban labor force putting greater stress on the cities.

Agriculture Policy Implementation Issues

Constitution, Legislation & State Institutions

According to the 1973 constitution, agriculture is a provincial subject. It is neither on the concurrent list nor the provincial list but instead on the Residuary list. Though the provincial government can amend any policy to the extent of its own province overwriting the federal legislation, still the Protection Acts come under the purview of the federal government. In any case, the Rules of Business have to be re-visited and a clear demarcation of responsibilities between the federal and provincial governments has to be defined and clarified in the eyes of the all stakeholders.

Additionally, laws that date back to the colonial era or ordinances promulgated in various regimes have to be revisited to achieve coherence in all legislation pertaining to agriculture to support the policy objectives. This includes re-defining relationship between the public and private sector, as the 1978 Ordinance and the 2008-09 Draft Law regarding role of private sector in Agriculture Marketing currently has a straight jacket approach. Additionally Custom's legislation has to be made trade friendly. Some work has been done as the Seed Act has been cleared by the standing committee of the National Assembly, while the Breeders Act is in the process.

More importantly, it is the intra-governmental functioning that needs reforms. Multiple stakeholders mentioned the lack of coordination among Provincial & Federal Governments, and among the Federal Government Departments themselves- When asked about fertilizer market price regulation, both federal and the state departments pointed to the other as the responsible party. There is no ownership due to shared and overlapping responsibilities while the right hand of the government institutions does not know what the left hand is doing. Water management is exploited to the extent that there are 32 different departments that handle water. While the Ministry of Food & Agriculture primarily looks at food security thus concentrating on wheat, rice is handled by the Ministry of Commerce and edible oil by the Ministry of Industries. The decision

to import (eg. fertilizer) is taken by Ministry of Industry while import and export takes place under the aegis of Ministry of Commerce. Three years back, the custom's department put 10% customs duty on hybrid seed imported from China even though such duty is not mandated. Delay in BT Cotton use can partly be attributed to the lack of agreement among Ministry of Food & Agriculture and the Ministry of Environment.

It is thus important to assess existing mandates of institutions and remove duplication of effort while specifying exact responsibilities. Some stakeholders suggested a complete restructure of the Federal Ministry of Food & Agriculture and devolvement of its tasks to the provinces though it was argued that institutional capacity needed to be kept in mind before suggesting such options.

The participants agreed that the role of government needs to be redefined through a new culture of working, accepting new ideas and breaking free from the past; for the stakeholders, visiting government offices should be a welcome experience rather than a humiliating one. The public officials must make a concerted effort to dispel the perception of incompetence & lack of focus. The public sector image can be improved by limiting perks, touring and misuse of official vehicles.

Further institutional reforms are needed in giving autonomy to research and regulatory institutions such as the Federal Seed Certification Department and Agriculture Price Commission (APC) as suggested earlier by the Sartaj Aziz Report. It was mentioned that APC's organizational strength has decreased from 30 to 13 officers arguing that institution building requires both financial as well as operational autonomy such that the Board of Governors and the chairman need not be government officers but the best professionals in the field. Additionally an autonomous monitoring and evaluation wing is needed, which uses scientifically evaluated evidence to give recommendations for improvement and replication of successful programs.

Investments & Credit

Investments in Agriculture have been negligible. According to the federal MTBF, the allocated budget for the year was Rs. 70B while only Rs. 40B was utilized. Similarly against a target of Rs. 380B in Agriculture Credit, only Rs. 180 B was utilized. In the first 5 or 6 five year plans, the Agriculture Capital Investment (including public & private) was about 30% of the Agriculture GDP while in the last five year plan, it was only 6.5% of the GDP. Similarly according to the

Punjab Economic Report, the share of agriculture in the total development budget has decreased from 16% to 6%.

Other than increasing investments in agriculture, rational investment decisions need to be made. At the federal level, the bulk of investments (Rs. 66B) went into water courses in the last 3-4 years neglecting seed, resource conservation technologies (laser leveling, sprinkler, raised bed, drip irrigation) and mechanization (deep tilling implements). It is important for the State to make huge investments and provide focus as it has done in few areas with better performance (Nuclear Program, IT Policy & Higher Education Policy). But it is also important that valuation of the project/program is done ahead of time, and additionally there are regular assessments of projects to make sure that program/policy outcomes and associated investments are evaluated.

Research, Academia & Human Resource Development

Over the last 15 years, improvement in the indices of all crop yields has been hardly 30% while inputs have increased many times- Fertilizer about 100%, Pesticide 500%, Certified 200%, and Agricultural Credit 10 times. Thus with degrading natural resources and input saturation, qualified human resource becomes extremely important for productivity increases and for quality assurance to enter the international food market.

Knowledge based agriculture requires skilled human resource across all aspects including policy analysis, technical research, institutional capacity building and farming. Educating policy makers on policy options based on sound economic analysis is not enough when methods used to collect agriculture data are 100s of years old even though new methods exist to better approximate production. Similarly, when eight coded BT Cotton seeds approved by the Ministry of Environment are sent back to the same department for checking and its results show that one had no gene while another had a non-Monsanto gene, it is not possible to trust the very institutions responsible for regulation.

Pakistan currently has 798 PhDs in agriculture related fields and a total of 4,341 researchers including Masters & Mphil, distributed across the country for federal and in 32 districts for Punjab, with largest concentration of scientists in Faisalabad. Of these 2,584 are completely dedicated to agriculture research while others also spend part of their time on teaching. But again the ratio of agriculture scientists to population has decreased from 66 to 24 per million population from 1973 to 2010 while the same ratio for the United States stands at 2360. There seems to be better access to funds now as University of Faisalabad has sent about 100 faculty

to international conferences last year. Also a total of 3,600 publications have been listed by HEC but no information exists regarding research quality and if research has fed into informing policy, extension services or appropriate technology development.

The research and academic infrastructure in the country consists of 7-8 Agriculture universities, 20 colleges and Federal & Provincial Research Institutions while in 1947, there was only one Agriculture College in Faisalabad subsequently followed by Peshawar and Tando Jam. Even though the numbers have increased, still this infrastructure has not attained its expectations and according to some stakeholders, the success stories (poultry and largely of cotton) in agriculture have mostly come from the private sector.

Academic Institutions

The mandate of Agriculture Universities in Pakistan is restricted to provision of quality education comparable to international standards. Though University of Agriculture Faisalabad, the largest agriculture university runs an internship program involving 1200 students in the wheat campaign for 6 weeks (started recently), a seasonal program each before rabi & kharif, a yearly horse and cattle show and around 300 modules of short term courses attended by 20,000 participants a year, still it does not provide focused and specialized training courses for farmers on regular basis before the beginning of the crop season.

Instead, the best example of an academic institution for agriculture productivity growth has been the Land Grant System of the US. A similar kind of system exists in Ludhiana University, which takes care of 20-25% of the area of Indian Punjab. The main difference compared to Pakistani universities is of mandate, which promotes research and extension linkages, with the university as a knowledge repository. For example, agricultural machine manufacturers have to get their licenses renewed from Ludhiana University following independent testing by the university. Thus monthly meetings of the largest agriculture manufacturers are well attended at the university allowing for a coordinated effort. Academics suggest that a similar strategy can be adopted to cover Pakistani Punjab with 3-4 similar universities located at select areas across the province. This would resolve regional disparities such that though Southern Punjab is the primarily cotton zone, it has no functioning laboratories for cotton research.

Federal and Provincial Research Institutions

The public sector research institutions are in need for a complete overhaul. These institutions no longer have a professional environment. Their researchers lack international exposure, their

research focus is unclear and there is little stakeholder involvement leading to poor research-farmer linkages.

In the last 10 years, only 15 people went abroad and that too for official business rather than academic events. Although more than 40 have been sent this year by PARB, the eventual goal needs to be a research producing institution informing policy or new products in Pakistan. Additionally more researchers now have facility to go abroad for further studies. Though basic laboratory infrastructure exists thanks to the help provided by Americans & Europeans in the 60s and 70s, upgradation to new technology is needed. More importantly, skilled & trained manpower equipped to manage complex machinery is lacking.

While the average agriculture research investment across Asia is 0.5% of Agriculture GDP, it is less than 0.2% (Rs. 6.8Billion) for Pakistan. Added to this is an inappropriate operational structure with salary:operation share at 85:15 compared to the international norm of 60:40. Invariably the budget is released in October precluding the plantation of kharif crop, and the unspent amount is sent back in June while extra-ordinary expenses require following the tedious bureaucratic process. Situation has some what improved with PARB funding 27 research projects with a total cost of Rs.625 million in priority research areas last year. But it is estimated that a total of Rs. 41.5Billion is needed for a five years plan to bring the National Agriculture Research System up to date.

But more than funds, Scientists are treated like low-grade bureaucrats such that by the time a scientist becomes a director, s/he is more of a bureaucrat than a scientist. 85% of scientists retire in grade 17 (with < \$200 monthly income) and their services are seldom recognized leaving them little incentive to innovate.

Thus concentration should be on institutional reform, human resource capacity building, improvement of incentive structure and development of linkages with stakeholders especially the private sector. Research institutions should be autonomous, headed by experienced scientists, existing in a pluralistic network of institutions, each concentrating on a specific area. Research should be projectized and involve competitive bidding with a share for the researcher as well as the institution while profits made through innovation should also be shared with the breeder as well as the institution.

Additionally, salary structure and funding discrepancy between federal and provincial institutions should be removed and private sector involvement encouraged to develop linkages with domestic private research, International Research Institutes and universities.

Extension Services

The situation of public sector extension services can be assessed by the statistic that hardly 2% of farmers sow sugarcane with proper technology and process. One extension program of 'Cotton Crop Management Committee' established in 2005 was quoted as successful, leading to cotton yield increase because it was focused, it involved stakeholders including provincial and federal research institutions, progressive farmers, fertilizer & pesticide companies and the irrigation department through regular meetings and thus articulated a clear and focused message for the farmer in terms of seed choice, seed de-linting, bed preparation and pest management while visiting up to 12,000 villages. But one example was not enough for participants who argued that further improvements were still needed in this approach. Additionally beyond specific crop, seed & agronomy, issues also pertain to the agriculture cycle, for example, an important issue with wheat crop is that it has to be planted after rice and cotton, both of which extend taking time out of the Oct 25 – Nov 15 planting season for wheat.

Major institutional reforms are required in extension services. The structure of the department should be changed according to the needs of the customers – farmers. There was a difference of opinion on program strategy, one arguing that movement across the world is from inexact technology to precise technology requiring extension workers to be experts in specific crops and supporting it with a complete package for the crop. The other opinion argues that farmers don't have enough time to interact with different personnel for each crop and would be better served with a single extension person as a point of contact. Additionally though large farmer can afford specialized extension, an integrated extension approach including (Horticulture, Fisheries, Livestock, Agriculture) would work better for large percentage of small farmers rather than being encircled by different departments.

There is also a need for an extension program specifically for women who make huge contribution towards agriculture especially dominating vegetable farming. Government can learn from the FAO's extension program for women in the mid 1990s in Azad Kashmir where women were recruited, trained for 2-years and confirmed in the government department.

The assessment and improvement of extension services go hand in hand and thus the need to set specific time based targets for use of certified seed and use of nitrogen and phosphate.

Inputs

Other than issues related to a specific input, lack of regulation and assurance of quality and standards of inputs leading to rampant adulteration was considered a huge problem. Additionally the production costs are very high in Pakistan because there is no subsidy on the inputs (fertilizer, electricity) as compared to other countries.

Seed

For seed, the highlighted issues included the low usage of certified seed partly because of lack of trust on institutions selling seed, the low percentage of certified seed being of latest modern variety, farmer dependency in terms of having to buy modern seed every year, country's dependency of importing modern hybrid genetic seed and decrease in yield of same modern seed in recurring years.

Pakistan needs 1.6million tons of certified seed while the supply is only 300,000 and of that modern seed is only 100,000 tons (6.7% of the total). Another participant argued that usage of certified seed is about 18% while that of modern seed is only 5.6%. Because all modern seed is imported, farmer has to pay the royalty demanded by the manufacturer and sowing becomes dependent on ship delivery of seed. But issue is not just of availability as in cases where government tried to increase the supply of certified seed, there were no buyers and the reason was that the role of private sector was not acknowledged and the credibility of the institution selling certified seed was called into question.

For **wheat**, Pakistan gets the gene from China and hybrid from India. There is no need to reinvent the wheel but to pick up the research from what already exists. But for wheat, we should opt for Hybrid 2-gene technology rather than Hybrid 1-gene as it is already in use and takes less water.

The legalization process for BT **cotton** rests with the Provincial Seed Council, which may approve BT Cotton with Monsanto gene variety in about a month. Last year, Monsanto was allowed to test Indian seed in Pakistan but permission from India was not forthcoming. This year permission has been granted so it will now take a year before the trial can be evaluated. Though the use of certified seed for cotton increased from 3% to 11% to 39%, it became 0% again in

2004 with the introduction of BT Cotton. It is thus important to link introduction of new variety with extension.

The success story of *rice* is an outcome of hybrid seed, which gives twice the yield as normal rice. It was imported from China and new varieties produced by the private sector. For both Rice and Maize, hybrid seeds were imported 20 years ago but not extended by the public sector. The Public-private sectors are still at loggerheads as public sector continues to have concerns about hybrid technology which is used everywhere in the world. But actually, it is adoption by the farmer (who bases his/her decision on quality and marketability) that is most important as for Super Basmati variety, the government approved the variety only after it reached 40% of the cultivated area. A farmer representative argued that rice yield will decrease because the same hybrid seed that gave 100-120maunds/acre last year gave only 50maunds this year and will give even less next year.

The discussion around seed should also take into account the risk factors involved in use of hybrid seed. With some hybrid seed, the weight may be more but quality may not be that good. Additionally while the Open-pollinated varieties (OPV) seed can be used for up to 3 years, Hybrid seed would need to be imported every year and as specified earlier, the yield may decrease every recurring year. Importation may also make one dependent with a weak negotiating position, as in one case Western Seed companies decreased their royalty from \$28/acre to \$14/acre with the entry of China in the market. Thus government's seed policy should take all above into account while its seed approval mechanism needs to be evidence based, transparent and efficient.

Water

Water use efficiency is still low with almost 61% of the water lost in the irrigation system. Though the State has primarily focused its investment in Water Management Wing which concentrates on water courses and farm design ignoring new technologies and innovations for water conservation for which retraining of extension workers would be required. Pakistan gets most of its water in 70 days and thus needs an efficient system of distribution correlated with farmer & spatial needs. Additionally a proper and transparent enforcement of Indus Water Treaty is needed to remove all perceptions of water being used as a weapon.

Fertilizer

The biggest concern regarding fertilizer was its price instability. Price increased every time one went to the market. While fertilizer was imported for Rs. 1400, the government price was Rs 1950 but it was being sold for Rs. 2600 – 2750. Market regulation is completely missing and the government has not even assessed the difference between production costs and market price.

There is also an imbalance with current use ratio of Urea:Phosphate which stands at 5:1.

Pesticides

Ideally agriculture should be pesticide less because pesticides pose a big environmental and health hazard but instead pesticide use is increasing because an insect may become resistant to the insecticide the year following its use. Additionally poor quality of pesticide products sold in the market are another concern.

While in traditional agriculture, pesticide use with an import bill of Rs. 12-14B can't be replaced, its only possible alternative is research and use of Bio-technology.

Machinery

Agriculture Product Price Policy

The ideal situation for the farmer that prices of both inputs and outputs be fixed for 3 years may not be implementable but points to an agriculture price policy which supports a stable macro-economic environment allowing farmers to plan ahead. Additionally government would also need to keep a balance as domestic prices of food crops can not be too far not of sync with regional and international prices. Just increasing the support price leads to bringing more area under cultivation and a greater strain on the non-producing poor. Although social safety net programs were inculcated for increased food access for the poor, in actuality long term solutions are needed. The goal should be to define incentives for agriculture intensification.

Opinions differed regarding government's role. Some stakeholders argued that Government should only set Wheat Procurement Price while for all other crops, an indicative price (a range) should be regulated by the government. Timely announcement of the procurement price of wheat and indicative price for other crops is necessary for food security. Additionally the

procurement price of wheat should be based on production costs, import/export parity price and sound analysis. The other opinion instead argued that government should only ensure price range even for wheat.

Marketing & Storage

The post harvest losses of 25-40% (especially in perishables) in Pakistan are too high and adversely impact food security as well as lessen the export potential. Storage is a huge issue as most of the 9.3million tons of procured wheat is sitting outside in canvass. Additionally, lack of concentration on Farm to Market infrastructure adds to agriculture losses as well as leads to lower on farm price. For example, before the airstrip in Multan, 6-8 days were lost in transportation for mango export.

There is too wide a difference between On-Farm price and the Market Price. Rice with Farm Price of Rs. 37/kg is sold at Rs. 80/kg; onion with farm price of Rs. 5/kg is sold at Rs. 30/kg; cauliflower grown in HasanAbdal with farm price of Rs 2/kg is sold in Islamabad (a mere 50 km away) at Rs 28-30/kg. Farmer representatives argued that cotton demand could be fulfilled only if farmers were properly compensated.

It all depends on who controls the market, who can manipulate it or if government can regulate it and facilitate farmers to get a better price for their product. The lack of regulation has led to the rise of cartels, which have become rich at the expense of both the farmer and the consumer. Last year the cotton lint on-farm price was Rs. 3200/maund (after 80 days it was Rs. 4800/maund) while the import parity price was greater than Rs. 5000/maund, and shipping costs were Rs. 400/maund. Thus even with a shortfall, 1 million bales were exported.

Agri-marketing should be outside the domain of the public sector with a wider and clearer role for the private sector while legislation should be introduced both to facilitate the private sector as well as to regulate the market. Also an efficient trading platform allowing the market to function for perishable and non-perishable products is required.

Trade

The two points raised concerning trade were quality standards, trade regulation and the export market. Producing more is not the sole solution but instead the quality which is acceptable internationally. Pakistan has to follow international standards, use the Sanitary and PhytoSanitary (SPS) system and listen to the international community because only if we meet

individual requirements of countries, can we become important players in the world market. More than anything else, this requires a trained and educated farmer community to meet required standards. Organic Agriculture serving the up market is another area, which has not been focused upon.

The reason behind the success story of rice as an export commodity is that government did not intervene in the rice market (except last year when public sector procured rice instead it would be better if public sector helps farmers dry rice). Production increased because last year rice encroached on cotton area while quality was an outcome of standards, which have evolved over time because rice has been a regular export commodity for many years. Additionally rice is predominantly grown in Punjab & Sindh (with higher yields & quality assurance), which have higher private sector reach as compared to wheat, which is grown in all provinces.

Regarding export market, our regional countries including Iran, Afghanistan, Central Asia and the Gulf were suggested. But more importantly a trade policy in line with domestic requirements supporting agricultural needs is wanted. For example for wheat, the three months (April-June) are export free but we can not export more than 1 million tons because of our shipping capacity while 3 months (Nov-June) are import free.

Public Private Partnership

Stakeholders felt that the concept of Public Private Partnership (PPP) still required a definition in the Pakistani context. Partly because recent experiments of PPP have been a disaster as these initiatives were being run like a bureaucracy. More importantly the State needs to create an enabling environment for Public-Private Partnership while the businessmen should be willing to spend their own money.

There is also a need to develop linkages between public and private sector such that research done by the public sector is available for the private sector to commercialize (replicate & sell) within an established framework of a bidding process and profit sharing.

Beyond Crops: Rangeland, Horticulture, Farm-Nonfarm linkages

Agriculture includes a wide range of activities including husbandry- a provider of dairy, meat and leather, and horticulture including vegetables, fruits and flowers but little concentration has been put on non-crop agriculture. Horticulture is still on the margins with exports of \$24-35million because of policy neglect. Similarly, Rangeland Development has been ignored because there

is no one body responsible for it. About 50-60% of the sheep/goat population comes from Baluchistan but at the provincial level, rangeland comes under the Forest Department while at the Federal level, the Ministry of Environment is engaged.

Policy Objectives

The agriculture terms of trade have been deteriorating while a majority of the population is still dependent on agriculture. Resources are yet not the issue but how we use these resources. But Climate Change, population pressures and unrestricted urbanization are rapidly degrading existing agriculture assets. Still China, with much higher yields than Pakistan has smaller land holdings of around 2-3 acres. Thus the main target of the policy should be the small farmer because it is the small farmer, who makes up the vast majority and who bring down the average yield.

The main challenges include low productivity, limited investment, ineffective extension services, lack of autonomy and coordination among state institutions, attitude problem of civil servants, weak regulatory bodies and lack of monitoring and evaluation system. But most importantly the complete disconnect between research, evaluation & policy, and policy & implementation needs to be resolved.

The increase in Pakistan's total agriculture production has been an outcome of bringing 5million extra acres into cultivation without any planning for meeting the input (water & fertilizer) requirements for the extra land. From 1993-03, almost all growth in agriculture came from inputs (machinery, tubewells) but not much from advantages in productivity. Instead there is a need for intensification such that unit/water, unit/land and also unit/labor are maximized.

Knowledge Based rather than input induced agriculture is key to bringing about this change. It includes eco-region based recommendation, subsidy on new technologies and inputs, greater effort in data collection & analysis to identify opportunities and trends, a flexible research organizational structure, infrastructural up-gradation and an emphasis on farmer training on new technologies. This coupled with institutional reforms in trying to address larger societal issues of accountability, attitude and a sense of responsibility within the agriculture sector should be the objective of the policy while associated regulatory mechanisms would be the best way for the government to create the necessary incentives and disincentives to meet its policy objectives.

But more importantly Agriculture needs to be looked at as a package, requiring one government department, which treats farmers and other stakeholders as customers rather than they having to knock on 16 different doors. Thus the national policy should be holistic including all sectors that impact agriculture. It also needs to be informed by socio-political aspects such as the regional disparity, rural urban disparity and migration patterns of the current development paradigm. Most importantly, monitoring and evaluation should be a constituent part of the policy framework allowing for evidence based study of what works and what does not.

Technology needs to be explored both in terms of scientific techniques and processes. There has been a lack of technologies for high-value and pro-poor crops, but more importantly it is the concept of appropriate technologies for resource poor farmers especially in marginal areas that has been ignored. Farmer skills have to complement the technology they use else it would lead to un-suitable and indiscriminate use of modern inputs.

In terms of process, the coordination, transparency, efficiency and effectiveness of state institutions can be improved through proper use of Information Technology. The collection, consolidation and sharing of data would lead to a knowledge based decision making process and allow setting realistic targets decreasing the disconnect between policy & implementation. Additionally regular acquisition of data would further allow monitoring and evaluation of policy initiatives.

The objectives should also include:

- A fit with the overall macro-economic policy of the country
- Assessment of socio-economic aspects in terms of rural development
- Assessment and improvement of farm and non-farm sectors linkages
- Human Security and Human Development issues of farmers including farmer insurance
- A manufacturing rather than an import based inputs policy
- An eye on biodiversity with at least 2-3 varieties of each crop
- Compliance with Intellectual Property Rights (IPR) for foreign investment
- Ways and means to reduce Production Costs
- Market regulation against monopolization and cartels

Appendix: List of Participants

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