



Reviving Agriculture Growth (Part II)

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Import Substitution and Export Promotion

Agro-based exports (Food, Textile, Leather Groups) account for 75 to 80 percent of total earnings but direct exports of agricultural commodities are limited to only \$5 billion, dominated by rice. On the other hand, food and agricultural imports have risen to \$10 billion creating a deficit in this category of \$5 billion annually. Cotton has been imported consistently in recent years as domestic production has declined. As Plant Breeders Rights Rules have been approved to protect intellectual property rights it is time that reputable international firms be deployed to introduce varieties successfully replicated in similar agro-ecological zones with resultant increases in yields.

Import substitution of crops and commodities such as oil seeds, pulses and milk powder may add value as well as save foreign exchange. The cultivation of oil seeds such as canola, olive, sunflower, rapeseed was approved as a part of the National Agriculture Emergency program at a cost of Rs.310 billion and a subsidy of Rs.5000 per acre was to be given to those growing these crops and 50 percent for purchase of oilseed machinery. The Government of Punjab has made some

progress as acreage under sesame and mustard has more than doubled. But the marketing arrangements whereby oil mills guarantee purchase at pre-announced prices are still not fully operational. Processors and oil extractors should be encouraged to enter into contract arrangements with farmers as they do for tobacco, potatoes, maize and sugar. Sindh used to have a large area under sunflower that has shrunk over time. This program should be availed of to resume sunflower cultivation on the scale achieved in 2010-11. It is estimated that growing 10 mds/acre would save \$ 1 billion of imports annually.

Pakistan's fruits and vegetables exports are growing slower than the world average because of poor post-harvest management, shoddy packaging and lack of adherence to export standards. Resolving these problems should help in doubling the volume of horticultural exports, particularly mangoes, kinnow and dates. It is quite feasible to attain \$ 1.4 billion of exports of fruits and vegetables by adhering to international phytosanitary standards.

Two other areas with much potential are exports of seafood and meat and poultry. We have faced occasional boycott of our seafood

by the European Union due to the violation of international standards of hygiene. No single institution is responsible to take the lead and coordinate seafood exports. This fragmented approach has led to the neglect of this potential source of foreign exchange earnings. The same is true of meat exports. Pakistan should have been a big player in the global halal food industry (\$14 billion exports) which is dominated instead by Brazil, Australia and India. The existing Pakistan Halal Food Authority has fallen victim to inter-ministerial rivalry. It is proposed that the Ministry of Commerce and TDAP should be given the lead role in coordinating the exports of seafood and halal meat with the private sector, provincial governments and the Ministries of National Food, Maritime Affairs, Science and Technology. A conservative estimate suggests that meat and fish exports could double to \$1.5 billion if proactive policies are adopted for veterinary services, artificial insemination, foot and mouth disease and the use of modern technologies in slaughtering, processing, chilling and freezing.

Domestic sales of government-imported food items keep domestic prices below import parity prices and so the private sector does not find it profitable to import on its account. When international prices rise, exports are restricted to keep domestic prices under control. The gap between international and domestic prices tends to encourage smuggling to neighboring countries. Trade policies for food items should be liberalized with government intervening only under exceptional circumstances. When trade with India was open onion and potato shortages in one country were offset by surpluses in the other keeping consumer prices stable and returns to farmers remunerative.

Seed Improvement

Historical evidence suggests that genetic improvements in crops such as cotton have driven productivity growth in developing

countries. The introduction of Mexi-Pak wheat and IRRI rice varieties in the 1960's along with increased application of chemical fertilizers, provision of irrigation water and favorable price support policies led to the "green revolution" in Pakistan. Since then, innovations in seed varieties have stalled. Cotton has experienced a severe setback. Some farmers switched to local Bt cotton (none of the varieties was approved) but stored and used the seeds just like open pollinated seeds. Yields decreased and the Bt variety diffused without any quality control.

The Seed Act 1976 provided an institutional framework for registration, certification, multiplication and dissemination of approved varieties. The role of private seed companies has been expanding since 1981 with over 650 private companies currently active with a market share ranging from 72% for wheat to 100% for vegetables and fodder. However, the performance of many private companies has been poor and some consolidation is called for. By comparison, India has only 500 private seed companies though it has a much larger acreage under cultivation. Certification takes so much time that about 80% of seed requirements are filled by uncertified seeds from private producers. It is time to revisit the Seed Act of 1976 with a view to improving certification, registration, multiplication and dissemination processes.

Another important regulatory body is the National Biosafety Committee which grants approval for the import, export, trial and commercial release of GM cultivars. Its impact has not been properly studied and an evaluation is long overdue. Anecdotal evidence suggests that it has not been facilitating the adoption of the pure GM technology.

Given the limited capacity and resources of the regulatory agencies, it is proposed that seed quality should be monitored at points of sale. The regulatory framework should move

away from a time consuming pre-approval to post-operation compliance with standards and benchmarks. The regulatory agencies should adopt international standards and protocols which would not require such an extensive manpower embedded in preapproval transactions. Deviations from these standards should be penalized to create a deterrent effect. These changes would require a much leaner, professional national regulatory body staffed by right skill mix and non-bureaucratic attitudes. Seed certification process is no longer relevant as the farmer chooses the variety that best suits him rather than looking for the stamp of certification by the regulator.

Mechanization, Technology and Advisory Services

A major constraint facing smallholders is the lack of knowledge about appropriate mechanization practices. Intensity of machinery use has boosted yields among large farmers and created a wide differential with small farms. The challenge is how to use the expertise and technology offered by private agri-tech companies to benefit smallholders. Provincial government departments of extension, mechanization etc. have proved inadequate to the task. The local tractor industry has been protected from competition from imports and government support to the industry has benefited large farmers disproportionately. As the industry has completed a deletion program successfully it should now be able to compete with imported tractors. Daska had at one time become a cluster for making agriculture implements and equipment through imitation, mostly in the informal sector and on a small scale. What is its current capability status and how can this and similar clusters be used to producing implements suited to the needs of small farmers?

Laser leveling, pneumatic planters, transplanting machines, harvesters and

threshers can add to profitability, increase efficiency, conserve water use, and reduce harvest timing while freeing fields for planting other crops. As small farmers cannot afford to purchase such equipment, the private sector should be given incentives to rent out, repair, maintain, and operate the same to small farmers. As the net margin would rise, the farmers would be inclined to use these services. Targeted agriculture credit and warehouse receipt system should be extended for this purpose. Rural Support institutions such as NRSP, Akhuwat and microfinance banks can promote such services as well.

Agriculture universities can disseminate research findings by training small farmers periodically through these organizations, responding to their concerns and resolving their specific problems. The partnerships between academia, research institutions, private service providers, financial institutions and rural support organizations would generate synergies with positive impact on the rural economy and national agricultural productivity.

Universities and research institutes have agronomists, entomologists and agriculture engineers who can collect primary data and carry out empirical studies in different agro climatic zones by establishing contacts and interactions with these farmers.

The state of Pakistan's agricultural report 2023 has documented the success story of poultry based on introduction of technologies along the value chain. State-of-the-art facilities are installed at some 70% of the parent stock farms and about 60% of broiler farms making poultry farming sector globally competitive.

Success of poultry industry demonstrates that investments in technology bring scale, reduce cost, make agri-commodities more affordable for the public and make exports competitive.

This lesson needs to be replicated sector-wide.

Labor shortages for farming in some parts of the country are becoming quite visible due to migration, especially among educated youth. Instead of throwing them out to the streets of urban areas to fend for themselves, these young educated persons can be trained as drivers, machine operators, mechanics, technicians for machinery service providers. This would, to some extent, ease the unemployment problem, upgrade the level of technical skills so essential for future economic development and slow down rural urban migration.

To promote mechanization and encourage mechanization service providers, the government should allow import of quality machinery, and parts for agriculture sector duty free for a limited period. Banks should provide fixed term 5-6 year term loans to these machinery and technology service providers to acquire the machinery. They can pay back these loans by recovering rental instalments from the farmers. When scale expands, private sector, and foreign brands would be able to manufacture some of these machines and equipment locally with backward and forward linkages.

Public Policy Interventions

The nature and application of public policy interventions in agriculture and rural economy have created perverse incentives and market distortions while leaving unattended a number of critical measures such as liberalization of agricultural marketing, digitization of land records, titles and promotion of land rental market.

Public policy intervention in wheat and sugarcane demonstrates the market distortions that disrupt transmission of price signals to farmers and consumers.

Pre-determined procurement prices, public procurement targets, release of wheat and

issue price at subsidized rate to flour mills, administrative control on retail prices have been practiced for some time but have failed to achieve the desired result.

Large farmers are the main beneficiaries of public procurement as they are influential and possess substantial marketable surplus. Small farmers have to save a large portion of produce for subsistence and dispose of the remaining balance at distress prices to offset the loans they had taken for inputs from the arhtis below the fixed prices. Urban consumers do not get atta at the fixed retail price and have to supplement purchases from parallel markets at higher prices. Government has to pay subsidies out of the budget and also incur heavy debt on commodity operations such as storage, transportation, financing, etc. As local prices of atta are subsidized much below international prices, there is smuggling to neighboring countries while the price differences between local and imported price is borne by the government. Scarce foreign exchange is utilized on import and shipping of wheat well above the gap in domestic consumption and production. In this bargain everyone is worse off except large farmers, food department officials and the flour mill owners.

A more rational approach would be for the government to get out of the mandatory procurement business, build strategic reserves and release them in lean months or when there is volatility in the market. This would save billions of rupees and allow market forces to determine producer and consumer prices. Households below the poverty line can be subsidized through BISP by either raising the amount of unconditional cash transfer or linking up the points of sale for retail shops with the National Economic and Social Registry for subsidized sales to target groups. The private sector should be allowed to enter international trade to equilibrate supply and demand in the domestic market. Once the government gets

out of wheat procurement, storage and distribution business then those savings can be diverted towards investment in R&D in agriculture by the public and private sectors and universities.

Marketing improvements are needed to make the agriculture sector efficient, remunerative for farmers, competitive for consumers and responsive to changing demand patterns. The present collusive marketing system where petty officials of Agricultural Departments and the cartels of arhtis are causing havoc to both consumers and producers must be dismantled.

Pakistan will have to develop links across the full supply chain connecting farms to retail outlets. Corporate Investment and competition in on-farm storage, refrigerated vans and specialized trucks, silos and warehouses, wholesale distribution channels supplying to the processors and opening up the highly inefficient and regulated marketing will eliminate the excessive rents earned by those involved in the present arrangements. This 'unearned' premium under a reconfigured modern value chain bolstered by competitive forces will then accrue to farmers and consumers while acting as a restraint on food inflation.

The gene revolution that has raised cotton yields and outputs in neighboring countries has bypassed Pakistan. Despite proven evidence that BT cotton has an advantage over open pollinated varieties in yields, costs and environmental benefits successive government have been unable to make a decision. Laws and rules including those for plant breeders protecting their intellectual property rights have been approved but the leading international companies have been kept at bay because of the vested interests of the unscrupulous seed companies. This indecision which has promoted plagiarism in spread of undesirable varieties has led cotton production to decline from 14 million bales to

less than 5 million.

Where benign government interventions are needed these are found missing. Pakistan produces fruits and vegetables that are in demand worldwide but the lack of a cold chain arrangement for storage and transport has been a major constraint. The private sector should be incentivized to take the lead in investment and value chain development through performance-linked tax credit for a limited period.

In the livestock sector, animal disease control, veterinary services and artificial insemination are some of measures that would improve the productivity of small farmers.

The pricing of water used by poultry, meat and dairy products has to be significantly higher as they consume more water than traditional crops.

The unfortunate switch from cotton-- raw material for textile exports-- to water intensive sugarcane illustrates a bias in decision-making guided by considerations of patronage and self-enrichment of policy makers. The support price of sugarcane is set higher than the import parity price. The ex-mill price of refined sugar that directly benefits the politician-owners of the mills is also fixed by the Government. Exports are allowed when sugar production is surplus and subsidy provided by the Government. When there is shortage the Government has to import and bear the difference between landed cost and the retail price.

To prevent the haphazard conversion of fertile agriculture land into unplanned, illegal and irregular housing societies that is spreading like wildfire, the Provincial Governments have to set up a transparent mechanism for making changes in land utilization. District Councils should have proper staff to make on the spot assessments and give permission if stipulated conditions are met. Only uncultivable,

unproductive, saline plots of land in non-irrigated areas should be allowed for conversion under an integrated plan for each tehsil. The generous implicit incentives for tax free and speculative investment in real estate are policy induced and are diverting resources from productive to speculative activities—an anti-growth strategy.

Land rental markets have not been able to operate as land titles are not clearly defined and land disputes have congested our court system. Although computerization of land records has taken place, digitization is still pending that would establish the title and show all encumbrances for each parcel of land. Passbooks are used by banks for agriculture credit and it is imperative that these passbooks should be digitized and stored in a centralized database such as that of NADRA.

Changing Tastes and Preferences

Rapid urbanization, rising middle class and growing health consciousness are changing dietary preferences away from cereals towards meat, poultry, fish, seafood, dairy, fruits and vegetables. Livestock and horticulture have expanded fast and the composition of the sector has reversed from a ratio of 60:35 in favor of crops to 30:65 in favor of livestock. The rate of growth of livestock in the last two decades have been almost twice that of major crops (leaving out maize). Maize has shown a phenomenal growth tripling its yield since 2001. As 70% of maize is used as poultry feed there has been an upsurge in the poultry industry in the last 13 years. The poultry population has quadrupled due to hybrid maize, controlled sheds and disease management, commercialization of production. Due to increase in supply, real prices of poultry have in fact fallen.

In addition, meat, poultry, fish, fruits and vegetables have also increased their exports,

reaching \$1.5 billion in FY22. With better measures in place for modern supply chain, preservation, storage and cold chains, this amount could be realistically doubled. International certification, packaging, vapor heat treatment facilities and direct linkage with international supermarket chains are the steps to be taken to achieve this goal.

There is however, a trade-off between the expansion of meat and dairy exports and moderate water usage. One kilogram of beef consumes much more water than cereals.

Conclusions

To sum up, the two articles in this series have demonstrated that Pakistan's economic crises can be redressed if we pay highest priority to the revival of growth in agriculture sector. No single economic activity has such a pervasive and intertwined footprint on the entire economy –direct or indirect--as has agriculture. Not only does two-thirds of the population live in the rural areas, two-fifths of direct employment is generated from this sector and three-fourths of the country's exports originate from agriculture commodities. Food inflation can be contained when the prices of vegetables, pulses, meat, wheat and vegetable oil are lowered due to increased supply. As rural incomes of the bottom 40 percent and middle 40 percent of farmers rise due to improved productivity, poverty can be reduced, food security and nutrition ensured, income distribution improved, and regional disparities minimized. The current account balance can be brought under control as the need for imports of food items and cotton is obviated. Other sectors of the economy such as trade and transportation which account for 30 percent of GDP are heavily dependent upon the volume of marketable surplus of agriculture produce. We are not talking about pie in the sky as the existing wide gap between the progressive farmers and the average farmers shows the potential that can be realized under the right set of policies, incentives, investment and

institutions. Climate change risks can also be mitigated if the proposals made in this series are faithfully implemented. The enhanced purchasing power of the rural population would create demand for domestic manufactured goods which would expand their scale of production. The resulting economies of scale would reduce their unit cost of production and make them competitive both against imported substitutes but also allow penetration in export markets. This simultaneous increase in agriculture and manufacturing would allow aggregate demand to be met by domestic productive capacity avoiding spillover to imports. This is possible because in the early 2000s, the bulk of our imports were financed by exports and the country had current account surplus, low inflation, stable exchange rate, declining

interest rates and falling debt ratios. The above strategy to focus on increasing productivity, if implemented with strong political will, would be able to get the country out of the frequent economic crises it has been facing for the last 15 years or so. Frequent recourse to the IMF and friendly country donors would become redundant.

The task ahead is by no means easy. Complacency with the status quo, entrenched vested interests, lack of coordination between the federal and the provincial governments and the private sector and a plethora of inefficient institutions make the task enormously difficult. The silver lining is that reviving agriculture growth would put the country on a steady path of inclusive and sustainable growth.

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