

## Agri sector investment is must for improving Pakistan's resilience yield

According to a recent report, published by Washington-based International Food Policy Research Institute, stressed that improved organizational structures and incentives for researchers and extension agents could help reinvigorate Pakistan's agricultural science and technology system.

Better regulation of seed markets and stronger incentives to encourage private investment in research and development could also speed dissemination of improved cultivars, hybrids, transgenics, and other products. These improved products could also increase yields or the value of crops to consumers or could reduce yield variability, losses to biotic and abiotic stress, or costs of production, the report says.

The report suggests that funding for public expenditures on agricultural and rural economy can be found by significantly reducing expenditures on domestic procurement, storage, and distribution of wheat, which accounted for Rs24.84 billion in 2012-13.

Substantial savings could be achieved by reducing the level of annual domestic procurement, eliminating the subsidy on sales of government wheat to flour mills, reducing the level of government stocks, and planning for subsidies on wheat imports in the event of domestic shortfalls in years of very high international prices.



Similar funds could be found by significantly reducing the subsidies received by the fertilizer industry and reallocating those resources into research and extension efforts designed to improve soil fertility management, it says.

Suggesting improvement in market performance, the report says that regulations that govern the supply of commodities to market can be reformed to reduce both the direct costs of marketing agricultural products and the transaction costs for both farmers and consumers associated with participating in markets.

In its conclusion, the report says that Pakistan's agricultural sector has enormous potential, but tapping this potential will require higher levels of investment and some major reforms to public policy.

## US Embassy to lead Pakistani delegation to Atlanta promoting agriculture

A delegation of Pakistani officials, businessmen, farmers and agriculture experts will be led by US Embassy Economic Counselor Joel Robert Garverick to Atlanta, Georgia, to promote US-Pakistan bilateral commercial ties and increase trade and investment in agriculture.

According to a press release, the delegation will remain in US until February early and will attend the 2017 International Production and Processing Expo (IPPE), the United States' largest annual trade show for the poultry, meat and feed industries, building on the theme, "Innovation in agriculture".

Following the expo, the group will meet with US agribusiness executives and researchers, including experts at the Georgia Tech Agriculture Technology Research Group and Innovation Lab, to explore innovations that could benefit Pakistan, expand bilateral trade, and create investment opportunities for the US companies.

The group will also visit a peach farm in Georgia, and conduct meetings with Georgia Farm Bureau, Cotton Commission, State Department of Agriculture, and the US Department of Agriculture's Research Service.

Representatives from across Pakistan will take part in the mission. Agriculture is Pakistan's leading industry, accounting for more than 20% of GDP and two-fifths of employment.





### Digital agriculture alternative

According to Pakistan's Economic Survey 2016, agriculture contributed 20 % of GDP that accounts for 42.3 % of Pakistan's employed labour force. Despite its importance, the agriculture sector is suffering from unpredictability in growth and its performance remains subdued. According to Pakistan's Economic Survey 2014-15, insufficient progress in technological innovation, limited progressive farming techniques, marketing and trade restrictions, low prices of crops and traditional processing methods are major reasons for low production.

Around 40 % of the total agricultural production was wasted in post-harvest due to insufficient utilization of biotechnology. In this scenario, use of biotechnology seems to be the most fitting solution to revive this sector.

There is a strong need to launch an initiative to digitize agriculture and provide necessary information to farmers to increase production. It is heartening to note that a mobile company operating in Pakistan has taken the initiative in this regard but the services of this initiative are limited to certain regions, which needs to be extended to the whole country.

### Pakistan's papaya pest squashed through biocontrol

A severe invasion of the papaya mealybug (*Paracoccus marginatus*) nearly wiped out papaya orchards in Pakistan before the largely farmed country decided to replace conventional chemical pesticides that were ineffective with natural predators that proved to be successful.

The system was developed by agrobiotechnologists and entomologists at the Pakistani chapter of the UK-based Centre for Agriculture and Bioscience International (CABI) who introduced the use of *Acerophagus papayae*, a parasitoid (insects whose larvae parasite upon and eventually kill the host), to effectively control the mealybug infestation.

"Farmers are happy with this cost-effective, pesticide-free technique to deal with the mealybug and now see possibilities of recovering their papaya farms," says CABI research coordinator Abdul Rehman.

Papaya once covered some 921 hectares in the two coastal provinces of Sindh and Balochistan, according to the National Agriculture Research Council (NARC). But, after the first mealybug attack on papaya was reported in 2008, the area under papaya had shrunk to 307 hectares by 2014.

Demonstration of the bio-control technique and awareness building among farmers helped wide-scale adoption and resulted in over 80 % control of the papaya mealybug.

In 2014, under CABI's papaya pest management programme, *A. papayae* specimens were collected from the coastal areas near the port city of Karachi, reared in the laboratory and then released into papaya plantations after screening and environmental assessments.

CABI researchers also set up a Natural Enemies Field Reservoir on the farmers' fields to breed the *A. papayae* parasitoid as well as eight other natural predators of the papaya mealybug.

Amjad Pervez, director-general at the NARC's Karachi-based regional office, says that the advantage of the bio-control approach lies in its simplicity and in the fact that it is self-sustaining.

### LUMS shares feedback on Punjab agriculture policy

Recently a seminar was organized by the Centre for Governance and Public Management (CGPM), and LUMS to provide structured feedback and suggestions on the draft Punjab Agriculture Policy prepared by the Punjab Agriculture Commission.

Dr. Iqrar Ahmad Khan, VC Agriculture University Faisalabad outlined the broad



contours of the policy, after which the participants discussed in some detail the challenges faced by agriculture in Punjab and the proposed policy responses. Dr. Ahsan Rana, Director CGPM moderated the seminar.

Participants of the seminar included Syed Babar Ali, Vice Chancellor LUMS Dr. Sohail Naqvi, several LUMS faculty members, alumni of SDSB's Executive Certificate in Agribusiness Management (ECAM) and a few agribusiness leaders.

Dr. Iqrar shared the policy proposals on nine broad issues related to Punjab's agriculture. These issues included; productivity increase, adapting to climate change, poverty alleviation, input subsidies, agriculture research and extension, improving seed provision, agriculture produce markets, genetically modified crops, and meeting globalization challenges.

These policy proposals emphasized increased use of technology, the need to improve farming practices, increasing investment in agricultural R&D, and developing a more robust legal and institutional infrastructure.

While commenting on the draft Punjab Agriculture Policy, Syed Babar Ali identified the exponentially growing population as a key challenge affecting agricultural productivity, modernization, and government efforts to alleviate poverty to promote and encourage stakeholder activism.



### **Nestlé Invests in Pakistani Mango Sector Sustainability**

Nestlé Pakistan will be giving financial backing to mango growers who employ drip irrigation systems. For this it has signed two Memoranda of Understanding (MoU) while also partnering with a leading research institute to help improve farming practices.

The first MoUs signed with the Punjab Agriculture Department involves taking on Mango Research Institute, Multan, as a research partner in its Chaunsa Project, which aims to improve

the livelihood of farmers through what is referred to as "Creating Shared Values (CSV) intervention".

The project was launched in 2014 in collaboration with Australia-Pakistan Agriculture Sector Linkages Programme (ASLP) and the Pakistan Agriculture Research Council (PARC), with the goal of achieving best farm practices that result in the "right quality pulp and improved harvest".

In a release, Nestlé Pakistan said it hoped access to the latest research in the mango sector and best farm practices would help build on its existing work with growers.

The second MoU relates to the Water Resource Management Project, in which Nestlé will partner with the Water Management Wing of the department for a program that offers 60% subsidies to farmers who employ high efficiency irrigation systems.

Under the arrangement, Nestlé has pledged to bear the 40% share the farmer owes to the government.

The group said the project was spread over 10 acres, located around the district of Sheikhpura, with projected expansion to reach 50 acres by the end of this year.

Nestlé Pakistan head of corporate affairs Waqar Ahmad said he believed the company was resolving the global challenge of sustainable business through a multi-stakeholder approach.



## Need to develop competitive basmati for global market share

During the last decade, the composition of rice exports has changed drastically. Basmati's share in rice exports has declined from 58% in 2007-08 to 24% in 2015-16. In value terms, the basmati exports have declined from \$1.1bn to \$447m whereas that of non-basmati varieties has nearly doubled from \$767m to \$1.4bn.

Though this transformation appears inconsequential as the net export proceeds remain similar, it's indeed regressive as Pakistan is being knocked out of the premium quality rice segment and improving competitiveness in the coarse rice market characterized by a price race to the bottom.

The main reason for the unending slide in Pakistan's basmati exports is the gradual decrease of competitiveness and the failure to adapt the product with the evolving international market dynamics in a zero-sum competition with the only other basmati producing country India.

During the last 20 years, India has seized the basmati market from Pakistan owing to its lead in the development of basmati varieties and improvement in processing technologies especially parboiling.

Since 1995, India has developed more than 20 high-yielding, disease-resistant and extra-long varieties of basmati, its hybrids and look-alikes, whereas in

Pakistan no successful indigenous high-yielding basmati variety has been fielded since the approval of Super Basmati in 1990s.

Around 46% of the global basmati consumption, outside the subcontinent, is in Saudi Arabia and Iran only. In the Saudi market of \$1.4bn, Pakistan has gradually lost its share to India from 59% in 1986 to a meager 6% in 2015 whereas in Iranian market of \$1.2bn Pakistan's share is a dismal 0.4% now

While Pakistan has been trying to preserve its natural heritage of basmati at international forums and through promulgation of legislation on geographical indications, the commercial extinction of indigenous basmati varieties would render such protection meaningless.

On the processing side, India has secured a technological advantage by developing mechanized parboiling technology which ensures color consistency and absence of odour which sets in through manual parboiling techniques. The development of 1121 and 1509 varieties ideally complemented the parboiling technology.

The strategy to regain the market share in premium rice segment includes immediate focus on agronomic research of high-yield, short-period, long-grain, drought-and-disease-resistant basmati varieties; proliferation of processing technologies; re-introduction of mandatory pre-shipment inspection mechanism for improving quality perception of Pakistani basmati; promotion of branding and

development of short-term penetration strategy for the post-sanctions Iranian market.

## Rice export on decrease

Rice production in Pakistan holds an extremely key position in agriculture and the national economy. Pakistan is the world's 4th largest producer of rice. It is the second largest export commodity after textile and placing Pakistan in the top five rice exporting countries of the world. Rice is the third largest crop after wheat and cotton which is grown over 10 % of the total cropped area.

Rice is highly valued cash crop and it accounts for 6.7 % in value added in agriculture and 1.6 % in GDP. Pakistan grows enough high quality rice to meet both domestic demand and allow for exports of around one million ton per annum.

Regrettably, rice export industry has been facing severe suffering since last couple of years and unable to compete in the world market due to which its exports were on drop.

The present PML (N) government has taken many good measures regarding strengthen the economy of country including successfully completion of IMF program, relief package for textile sector and Kisan package for agriculture.

There is a dire need in the current scenario for making arrangements to enhance the rice export. By increasing the export of rice not only more foreign exchange would come but also domestic rice industry would overcome the crisis.



## Sindh forms agriculture development board to increase exports

The Sindh government has formed an agricultural development board for improving the productivity, quality, and standard of crops and other agricultural products in the province to increase their export.

The Sindh chief secretary notified that the board would also address the issues faced by growers and other stakeholders in terms of policymaking.

The 27-member board will be headed by the provincial minister for agriculture, supply and prices. The Sindh Agricultural Growth Project director will act as the secretary of the board.

Its other members include, the Sindh agriculture secretary; irrigation secretary; the vice-chancellor of the Sindh Agriculture University, Tando Jam, the directors general of the Trade Development Authority of Pakistan; the Agriculture Extension Sindh, Hyderabad, the Agriculture Research Sindh, Tando Jam, the Agricultural Engineering and the Water Management Sindh, and the Sindh Enterprise Development Fund; the chief agriculturist at Sindh Planning and Development Department; the managing director of the Sindh Seed Corporation, Hyderabad, the director of the Agriculture Credit Division, State Bank of Pakistan, the director-general of the Pakistan Agriculture Research Council of Pakistan, Southern Zone, Karachi, the vice chairman of the Pakistan Central Cotton Committee, the presidents of the Sindh Abadgar Board, Hyderabad, the Sindh Chamber of Agriculture, Hyderabad, the Sindh Abadgar Ittehad, the All Pakistan Sugar Mills' Association, the All Pakistan Ginners' Association, the All Pakistan Textile Mills' Association, Sindh Zone, the Rice Exporters' Association of Pakistan, Sindh Zone, the Fruits and Vegetables Exporters' Association, representatives of fertiliser companies, pesticide companies and seed companies, and agro processing companies in the province.

The terms of reference of the Agricultural Development Board include devising ways and means for increasing



productivity, quality, and standard of agricultural produce in the province.

It will develop strategy for development and multiplication of high yielding and high quality seeds and planting material.

The board will take measures for introduction of good agricultural practices, safe use of chemicals, global certification standards, integrated pest, and nutrient management, organic farming and product safety standards. It will also introduce reforms in management and operation of various wings of the agriculture department. It will also guide the provincial and federal government in agriculture policy making.

The Sindh government has also formed a provincial task force to provide strategic guidance and policy direction and to ensure effective implementation of Sindh's Accelerated Plan of Action for Malnutrition and Stunting.

## Making the most of new wheat varieties

Local markets are yet to find ways for the realistic price discovery of multiple varieties and a surer supply management despite of research in wheat varieties in collaboration with foreign institutions over the years which has boosted per-hectare yield.

The specifics of wheat varieties sometimes vary not only in cultivation, but in storage and inter-provincial supplies as well. And carelessness in any area affects pricing, both in the form of volatility and evenness.

"This becomes a little more complex because of the involvement of provincial governments in providing subsidized wheat to flour mills," says an official of

the Ministry of National Food Security and Research.

The fact that local markets now reflect international trends in pricing too quickly due to increasing online linkages 'is another issue that calls for aligning the wheat research and development programmes with the entire wheat economy of the country'.

The per-hectare yield of wheat has risen from 2,519kg in 2005-06, to 2,753kg in 2015-16, showing an average growth of 234kg per hectare in last 10 years. This modest average increase in productivity does not reflect the actual yield growth obtained in certain wheat varieties.

In fact, the new wheat varieties have led to far higher yields per-hectare but lots of factors impact on the average national wheat yield including the scale on which new varieties are being used and their pre- and post-harvest care.

Some of these varieties are Sehar-06, Farid-06, Saasi-06, Khirman-06, Faisalabad-08, Mairaj-08, Lasani-08, Pirsabak-08, Hashim-08, Nia Amber-10, Nia Sunehri-10, Millat-11, NARC-11, Punjab-11, AARI-11, Bharabi-11, Nia Sunder-11, Galaxy-13, Benazir-13, Nia Sarang-13, Pirsabak-13, Shahkar-13, Lalma-13, Pakistan 13 and Ujala-15.

But they point out that high-yielding, disease-resistant wheat varieties are not used effectively by all farmers. Only a fraction of them take proper care at each step of wheat growing and harvesting.

Sources in Parc say that in collaboration with CIMMYT an international wheat and maize improvement centre, the local wheat research programmes are exploring varieties for not only higher yield but richness in nutrition value too. ♦