



Agri-Business Supplement

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Pakistan's Experience with the Pakistan–China FTA : Lessons for CPEC

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1. Introduction

While there is little doubt that Pakistan is headed full steam into the China–Pakistan Economic Corridor (CPEC) era, there is concern about the impact of many CPEC initiatives on the country's industrial sector. Most CPEC initiatives are centered on infrastructure development and energy, but there is also an element of increased market access for Chinese goods. While this has many obvious benefits for consumers, domestic producers are worried about the impact of opening the Pakistani market further to Chinese producers. One example of the impact of increased market access for Chinese goods is the aftermath of the 2006 Free Trade Agreement (FTA) between Pakistan and China. Under this FTA, numerous Pakistani tariffs on Chinese goods were reduced, as were many Chinese tariffs on Pakistani goods.

Most studies examining the impact of this FTA have looked at anecdotal evidence, such as the influx of Chinese goods in Pakistani markets, or macroeconomic data such as export and import figures, which show a significant surge in Chinese imports to Pakistan. The problem with this approach is obvious: what if the domestic firms that produce goods competing with Chinese exports were already less productive or in decline? This would imply that goods coming from China have simply hastened the demise of these sectors. Similarly, if the domestic firms producing goods that were granted increased access to Chinese markets are noncompetitive, then Pakistani exports to China should not register a meaningful increase. So the possibility exists that some sectors in Pakistan may generally be in decline due to low productivity and lack of competitiveness—in which case, the idea that the FTA has hurt Pakistan's interests is simply masking a general malaise.

2. Pakistan–China Cooperation Over Time

This section provides a brief overview of economic cooperation between Pakistan and China, and outlines the FTA signed in 2006.

2.1. Bilateral Cooperation Since 2000 In 2001, China and Pakistan signed several memoranda of understanding (MOU) that covered cooperation and projects in areas such as tourism, mining, telecoms and railroads. Since 2002, the two countries have worked jointly on developing the deep-water Gwadar Port on the Arabian Sea as an exit point for goods coming through Pakistan from western China. In 2005, both governments signed additional MOUs, covering, among other areas, higher education, defense, energy and infrastructure. The agreement to initiate CPEC was signed in April 2015. Work is already underway on the development of coal-fired and renewable energy (wind, solar and water) power plants. The agreement also covers ongoing work to develop the Gwadar region and preparations for building a network of roads that will connect western China to the Arabian Sea via Gwadar Port. There are also plans to upgrade the country's railways (which have seen little improvement in recent years) and to develop several special economic zones.

2.2. Trade Agreements with China The first trade agreement between China and Pakistan in the 2000s was a preferential trade agreement signed in 2003. Under this agreement, Pakistan reduced its tariffs to 5 percent on 386 items (chemicals and machinery), while China gave Pakistan tariff-free access to 767 items (Shabir & Kazmi, 2007). The 2006 Pakistan–China FTA was phased in over a period of five years (2007 to 2012) and covered thousands of product lines. Although China gave Pakistan concessions on more items than the latter gave China (6,418 versus 5,686), its exports to Pakistan cover 59 percent of these categories, whereas Pakistan's exports to China cover less than 5 percent (Pakistan Business Council, 2013, p. 4). Despite China's concessions, as of 2013, Pakistan's exports were still subject to higher tariffs than the ASEAN countries. These product lines include several goods in which Pakistan has a revealed comparative advantage (RCA), including jewelry, leather, frozen fish, polyethylene terephthalate and some categories of readymade garments (Pakistan Business Council, 2013).

During 2006–12, imports from China doubled and Pakistan's exports to China rose fivefold. While Pakistan's export performance appears at first glance to be impressive, the high rate of growth in reality

reflects the very small initial export base Pakistan started out with in 2006. China has become Pakistan's major source of imports in electronics, iron and steel, and manmade staple fibers. Overall, by 2012 China accounted for 25 percent of Pakistan's nonpetroleum imports (Pakistan Business Council, 2013). Not surprisingly, Pakistan's trade deficit with China has deteriorated from US\$2.4 billion to almost US\$4.1 billion over this period. In response to these trends, the Pakistan Business Council (2013) developed a list of 264 goods at the 6-digit level in which Pakistan had an RCA. It recommended that Pakistan lobby for further tariff concessions in these product lines since China had already granted the ASEAN countries a zero tariff on most of these products. Currently, Pakistan and China are negotiating a new set of tariff reductions under phase 2 of the Pakistan– China FTA. Our analysis will help decision makers gauge the impact of the previous agreement.

2.3. Pakistan's Concessions and its Imports from China Pakistan's imports from China have increased significantly since the FTA. These include the following product lines: electronic equipment (207 percent), organic chemicals (194 percent), manmade filaments (172 percent), iron and steel (175 percent), plastics (136 percent), fertilizers (16,900 percent), articles of iron and steel (135 percent), vehicles (160 percent), manmade staple fibers (743 percent), rubber (93 percent), paper (156 percent) and footwear (273 percent). In nearly all these product lines, Pakistan now procures at least a third of its imports from China (Pakistan Business Council, 2013). Its importance as a supplier to Pakistan has grown over the period 2003–15. Under the FTA, Pakistan eliminated tariffs on knitting machines, flat-rolled stainless steel, railway equipment, bus tire rubber, turbines and some chemicals. It reduced tariffs to the 0–5 percent range for flat-rolled iron, antibiotics, artificial filament yarn, artificial fibers, electrical equipment (such as switches and fuses), carboxylic acids and rayon. China has become the country's major supplier for most of these goods (Pakistan Business Council, 2013). Tariffs are now zero (or near zero) for fertilizers, pharmaceuticals and special-purpose machinery. Even in categories for which tariffs were reduced by half or less than half, China has become Pakistan's primary supplier for many products. This suggests that the cost advantages of Chinese goods are significant and that further tariff reductions in these categories could lead to even larger increases in imports.

Table 1: Pakistan's Import from China and Rest of the World

Year	Pakistan's imports from								
	The world	China	Saudi Arabia	UAE	US	Japan	Kuwait	Malaysia	India
	US\$	%	%	%	%	%	%	%	%
2003	13,048,609,489	7.34	10.86	11.17	6.04	6.61	6.37	4.61	1.73
2004	17,948,583,563	8.29	11.53	9.99	9.61	6.43	5.56	3.53	2.53
2005	25,096,575,301	9.36	10.56	9.88	6.10	6.51	5.04	2.91	2.30
2006	29,825,753,514	9.77	10.17	11.43	6.32	6.28	6.31	2.57	3.74
2007	32,593,936,069	12.78	12.31	8.49	8.00	5.08	5.68	3.55	3.88
2008	42,326,567,149	11.19	14.07	8.93	4.87	4.07	8.14	4.00	4.00
2009	31,583,717,824	11.97	11.08	10.61	5.70	4.08	5.71	5.09	3.42
2010	37,537,025,236	13.98	10.22	13.98	4.34	4.25	6.95	5.47	4.16
2011	43,578,259,220	14.85	10.71	15.65	4.02	4.27	8.93	6.26	3.69
2012	43,813,262,458	15.26	9.78	16.46	3.45	4.28	9.61	4.87	3.59
2013	43,775,183,185	15.14	8.79	17.71	3.81	4.48	9.02	4.39	4.28
2014	47,544,888,942	20.17	9.29	14.89	3.78	3.69	6.22	2.69	4.43
2015	43,989,644,709	25.05	6.84	13.04	4.36	3.92	3.89	2.07	3.79

Source: UN Comtrade Data Base

2.4. China's Concessions and Pakistan's Exports to China Pakistan's share of Chinese imports has grown in most sectors, but the only substantial gains have been in raw materials and low value-added sectors – especially cotton, cereals, raw hides and leather, fish, cement, copper, plastics, food waste and fodder, and textile made-ups. In each case, exports increased by at least tens of millions of dollars over the period 2006–12. The largest gain in exports from Pakistan to China was in cotton, which increased fivefold to US\$1.8 billion by 2012. The only category in which Pakistan has become one of China's main sources (supplying 25 percent of its imports) is gums and resins. China remains a minor market for Pakistan's main exports, receiving less than 10 percent of its imports from Pakistan in cotton, 4 cereals, ores and plastics. Overall, Pakistan accounted for only 0.15 percent of China's imports in 2015 (Table 2). On the other hand, higher value-added items such as steel, surgical equipment and apparel registered far smaller gains (between US\$4 million and US\$6 million in each case). In 2012, China accounted for less than 2 percent of Pakistan's exports of medical apparatus and less than 1 percent of its exports of apparel, denim fabrics and other textile made-ups.

Table 2: Chinese Imports from Pakistan and ASEAN Countries

Year	The World	Pakistan	India	US	ASEAN(all)
	US\$	%	%	%	%
2007	9.56115E+11	0.12	1.53	7.27	11.35
2008	1.13256E+12	0.09	1.79	7.20	10.33
2009	1.00556E+12	0.13	1.36	7.73	10.61
2010	1.396E+12	0.12	1.49	7.36	11.08
2011	1.74339E+12	0.12	1.34	7.06	11.07
2012	1.8182E+12	0.17	1.03	7.36	10.77
2013	1.94999E+12	0.16	0.87	7.87	10.23
2014	1.95802E+12	0.14	0.84	8.16	10.63
2015	1.68167E+12	0.15	0.80	8.95	11.26

Source: UN Comtrade Data Base

Among the goods that Pakistan exports to China in the 0–5 percent tariff range (phased in during 2007–12), tariffs hover around 4–5 percent for Pakistani goods, but are nearly 0 percent for the same goods coming from ASEAN countries. Most of Pakistan's exports in this category are yarns, but also include copper-zinc wire, frozen fish, fishmeal and dried vegetables. Insofar as these are mainly intermediate inputs, their value added is lower than that of finished goods. Cement, rubber footwear, household items of plastic, and tubes and pipes were also included in this category of preferences, but exports of these items barely registered.

3. FTA Impact on Pakistani Manufacturing: An Empirical Analysis

3.1. Pakistani Sectors Affected by Lower Pakistani Tariffs on Chinese Goods Our first analysis focuses on the impact of lower Pakistani tariffs on those Pakistani sectors that experienced lower tariffs on Chinese goods. We start by looking at the sector-average data for changes in total factor productivity, total employment, average employment (per firm) and the number of firms for those sectors in which Pakistani tariffs on Chinese goods were reduced by at least 25 percent. We consider these, sectors that were made more vulnerable by the FTA. At the sector level, productivity has fallen in most of the sectors that faced the largest reductions in protection following the FTA. Exceptions include leather, pharmaceuticals and rubber. The impact on employment and the number of firms was less pronounced.

3.2. Pakistani Sectors Affected by Lower Chinese Tariffs on Pakistani Goods In analyzing those Pakistani sectors that potentially benefited from lower Chinese tariffs, we start by looking at the sector-average data for changes in total factor productivity, total employment, average employment (per firm) and the number of firms in sectors for which Chinese tariffs on Pakistani goods were reduced by at least 4 percentage points. We consider these the sectors that were most likely to benefit from the FTA. The most striking result is that productivity has fallen across the textiles sector – the heart of Pakistan's manufacturing – as well as in sports goods and medical and dental instruments, both of which are important export sectors for Pakistan. While these drops in productivity almost across the board may appear to be implausible, we need to take into

account that the period covered by the data used in this analysis (the CMI for 1995/96 and 2010/11) overlaps with Pakistan's change from a high-growth/high-inflation regime to a low-growth/high-inflation (stagflation) regime. This occurred in 2008, a period that was also marked by large dips in private and public investment, law and order problems and energy shortages

4. Lessons for CPEC Up to this point, we have focused on the impact of the 2006 FTA on sectors in Pakistan. Here, we discuss why this is important in the context of CPEC. CPEC is not simply a series of projects. Rather, it is an entire strategy for long-term economic cooperation between Pakistan and China. This means that the existing economic relationship between Pakistan and China can and should be reevaluated and, where necessary, upgraded. In the context of our results on the impact of Chinese tariff concessions to Pakistani exports, it is critical that Pakistan gain the same level of tariff concessions from China as given to its ASEAN trading partners. Only with equal access will Pakistani manufacturers have the chance to move out of a low-productivity cycle (less productive firms producing and exporting low value-added goods to China) and into a higher-productivity cycle (more productive firms producing and exporting higher value-added goods to China).

5. Conclusion In recent decades, the long relationship between Pakistan and China has been accompanied by significant economic interaction, which includes the 2006 FTA as well as CPEC. There is growing realization that this relationship could have a significant economic impact for both countries, although the impact of CPEC has yet to be determined. For this reason, it is useful to look at the consequences of the Pakistan–China FTA to ensure that CPEC-related initiatives yield the maximum benefits. While the FTA has had a significant impact on the volume of trade between both countries, for Pakistan this trade has also led to movement from higher-productivity to lower-productivity firms. This is far from optimal in the context of an effective growth strategy. Accordingly, we have proposed some ways of making sure that CPEC-related initiatives do not squeeze productive firms out of Pakistan's manufacturing sector. There is little doubt that pragmatic policymakers on both the Pakistani and Chinese sides will realize that long-run growth

and stability in Pakistan depend critically on developing a high-productivity, high value-added manufacturing sector capable of yielding greater exports and growth over time.

CLIMATE CHANGE AND ITS IMPACTS ON WHEAT CROP IN PAKISTAN PROBLEMS, SUGGESTIONS & MITIGATION STRATEGIES

By: Muhammad Fakhar Imam OG-II, ATD, ZTBL

1. Impact of Climate Change on Wheat Sowing:

Problem: The change in rain fall patterns in Pakistan at the sowing time of wheat (November) causes the late sowing of wheat and the major staple crop cause in yield reduction as per agriculture research study 80% of the crop yields directly depends on timely sowing.

Increase in time period of some crops like rice and cotton (reported in research) also causes the late sowing of wheat crop.

Mitigation Strategies:

Some mitigation strategies have been adapted to overcome the above mentioned issues i.e. sowing of some early maturing varieties. In irrigated Punjab it has been recommended to sow Punjab 2011, Galaxy 2013, Fareed 2008 which are reported as early maturing varieties.

In arid areas of Punjab it has been recommended to sow Dharabi 2011.

To avoid the late sowing in Rice-Cotton, introduction of Zero Till Drill and Happy Seeders helped in timely sowing of wheat crop.

2. Climate Change and Insects Attack on Wheat:

Problem: Because of climatic change aphids are back to wheat crop and caused 18-22% of grain loss. Earlier in 1983, aphids were reported on Maxi-Pak. From 2013, aphids have become the regular insects of wheat crop because climate change has been reported in all



varieties.

Mitigation Strategies:



It has been recommended to sow at least 4 lines of Sarson, Conola in wheat crop/acre. As the lady bird beetles arrive and as per entomology research one lady bird beetle eat 800 aphids a day.

3. Climate Change and Varietal Uniformity

Problem: Earlier it has been reported that the varieties performed uniformly for years e.g. Maxi Pak 65 performed 28 years. Inqilab -91 performed 19 years but because of climate change the varieties are not performing for long time due to fluctuations in temperature e.g. Galaxy 2013 variety developed for irrigated areas but after 2 years maximum yield reported variety effected with rust in Rice-Wheat System. Chakwal 50 is reported with rust disease after 5 years.



Mitigation Strategies:

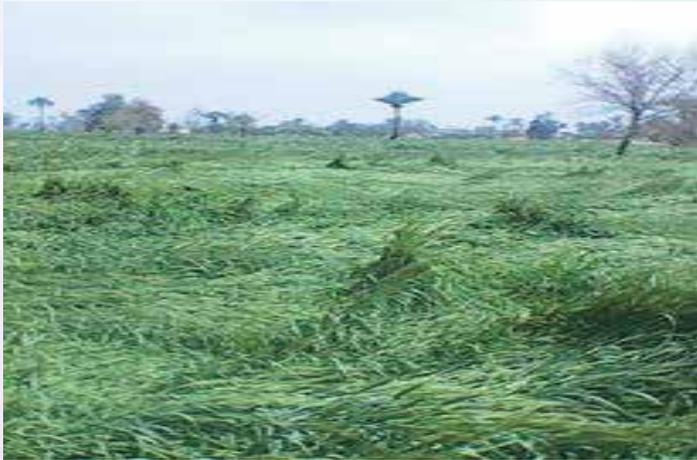
The above mentioned problem is an alarming



situation for the scientists. Some organizations have started the mother trails to recommend a variety best suited to a particular climate.

4. Climate change and Wind Lodging in Wheat

Problem: Shifting in rain fall patterns i.e. December rainfalls shifting reported from end of February and March are the major cause of wind lodging in wheat.



Mitigation Strategies:

Sowing of wheat crop on Beds and Ridge sowing reported less wind lodging and saves irrigation water up to 7-30%. Even 7-10% increase in yield has also been reported.



5. Climate Change and Diseases on Wheat

Some research reports reflected two major diseases on wheat crop:

Loose Smut

Kernel bunt

Half of decade back very minor loose smut and Kernal bunt reported on wheat crop but now these diseases are frequently reported in wheat crop especially in Punjab Areas i.e. Sargodha, Khushab, Sheikhpura, Lahore, Hafizabad, Gujranwala and Gujrat.



Mitigation Strategies:

Government Agriculture Extension staff recommend the treatment of wheat seed before sowing with



recommended fungicides which will help in overcoming the loose smut in wheat crop.



PARC MOBILE OLIVE OIL EXTRACTOR

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Olive was introduced about two decades ago as an emerging healthy oil source through grafting of existing wild olive trees (Kahu) and raising new orchards in hilly areas of Punjab and Khyber Pakhtunkhwa



Provinces. The olive tree plantation is expanding rapidly due to special attention given by the Federal and Provincial Governments. The olive fruit production has consequently increased significantly. However, a significant portion of olive fruit during production gets wasted due to non-availability of a mobile mechanical oil extraction facility at community level.

PARC team consisting of an engineer, olive expert and economist conducted a field survey during 2008 in olive tree planation areas of Punjab and Khyber Pakhtunkhwa. It was concluded in the survey report that majority of the farmers were of the view that an olive fruit processing unit with capacity ranging between 50 to 100 kilograms per hour be identified and acquired for its further propagation after its adaptation to suit local conditions.

Accordingly, a mobile olive oil extraction unit having a processing capacity of about 40 to 50 kilograms per hour of fresh fruit was identified and procured from Italy under a development project funded by RADP, PARC. The olive oil extraction unit was evaluated and demonstrated at community level in olive growing areas of Punjab and Khyber Pakhtunkhwa in coordination with Oilseeds Program, PARC and other stakeholders. The machine was successfully adapted to local agro-tech and socio-economic conditions. Based on the performance results of adapted unit and field experience at farm level, a pre-production unit was developed with the help of a local machinery manufacturer namely, M/S Technology International (Pvt.) Ltd., Faisalabad.

The local olive oil extraction unit was extensively evaluated at farmers' fields for certification of its performance as per RNAM Test Code and Procedures. The unit was also demonstrated at farmers' fields in olive growing areas of Khyber Pakhtunkhwa and Punjab in coordination with the



manufacturer and other stakeholders. Performance results indicated that fruit processing capacity of the machine varied from 32 to 38 kilograms per hour while oil recovery ranged from 11 to 18 percent mainly depending upon the fruit variety and maturity level and harvesting time. Total operational cost was found to be rupees 12.4 per kilogram of fresh olive fruit. The mechanically extracted (cold- pressed-oil) olive oil from this machine was categorized as extra virgin in accordance with edible oil standards.

Machine has been further modified for enhancing its processing capacity. Efforts are underway for large

scale manufacturing and marketing of this innovative technology in the country. Furthermore, institutional free training of machine operators and farmers in terms of its efficient operation and maintenance was rendered at their doorstep.

The oil recovery through mechanical fruit processing was high as compared to the traditional methods of oil extraction. The mechanically extracted olive oil can be consumed directly after oil settlement for a short while or after filtration through a piece of cotton cloth. This innovative intervention will enhance the farmers' income from olive tree plantation on their marginal lands because of new job opportunities for them. The waste material (cake) can easily be utilized for making syrup, jam, jelly and biscuits.

The unit is portable and can easily be moved from one place to another and its price is much lower as compared to imported machine. Maintenance of the machine is also easy as most of the replacement parts are available locally. The technology is ready for commercial manufacturing and marketing in the country.



SITUATION OF SMALL FARMERS AND PEASANTS, LANDLESS WORKERS IN PAKISTAN: SOME RANDOM THOUGHTS ON AGRICULTURE IN PAKISTAN

By Mr. Asif Sharif, ex-member BoD, ZTBL

Paper for SARC Conference – 8th December, 2017.

In 2017, Agriculture contributed about 20 percent of Gross Domestic Product (GDP) of Pakistan and accounted for half of employed labour force. Important crops are wheat, cotton, rice, sugarcane, maize etc. The full potential of crops production is still a dream in Pakistan.

Feudalism remain one of the main issue. Land reforms were declared unislamic in 1988. There are large scale land holdings and few control them. The situation of the small farmers, peasants and landless peasants remains bad in all aspects.

Over 60% population is agriculture dependent, yet there is not a single school or a training centre for hands-on-job farmers. Extension Services meant to educate and guide farmers with neutral advice are dormant. Knowledge gape is filled by sales representatives of Inputs supply companies. Their advice is generally biased and as a result, due to excessive use of purchased inputs production cost increased, quality of output decreased, and farmers profit decreased while soil and environment polluted.

Productivity is outcome of adequate knowledge and resources for the application of that knowledge. Unless both elements are provided, competitive production can not be achieved. The situation of rural labour is more grave than the peasantry and small farmers. More than 80% of rural workers do not own their homes; they live under the age-old feudal system, which does not grant them right to shelter. Therefore, all human settlements that are located on state land of any kind held by any civil and non-civil government departments or institutions in the rural area should be registered.

Government policies are meant to support processors of agriculture produce. There is no vehicle for progress and no institution to address farmers grievances. Subsidy which is a marketing tool is used for selling. Subsidy should be used for the introduction of new technology, process or machine tool and from there on it should sell on its own strength. Here, and in most countries subsidy is misused and never reached to the end beneficiary.

The region is at the edge of water scarcity and over 80% water is being wasted. Underground water level dropped over 80 feet in the past 20 years due excessive pumping that has caused wastage and salinity in soil, resulting reduced fertility and output. Agri production as well quality of production is declining year after year due to a process of agriculture production known as industrial agriculture, introduced in late 60's which recommend use of inorganic materials and genetically modified seeds.

Despite much opposition by civil society organisations (CSOs), small farmers and progressive growers, the Senate of Pakistan approved Seed (Amendment) Act in early 2016. According to the amendment, no unregistered person, whether it is farmers or institutions, will be allowed to stock, sell or exchange any seeds without official permission. It will be a punishable crime with prescribed fines and

imprisonment. The Seed Act 1976 was a farmers friendly and the legislation was such that there was little concern about gene tampering in Pakistan. It made citizens sovereign over their seed, and the public sector alone was responsible for seed development and registration. This present Seed Act allows multinational corporations to produce basic seed for its multiplication and certification, and also set up accredited seed testing laboratories”.

Nature is the biggest farmer on earth and farming since billions of years. We must not go against nature which has four fundamentals:

1. Soil and crop plants are not designed to survive in inundation; No inundation of the soil; healthy, productive soil systems are not just their inert mineral component. Soil systems are living entities needing to be able to ‘breathe’
2. No-tillage of soil. Minimum or no soil disturbance, to avoid diminishing the soil's structure and porosity
3. Soil should always remain covered with organic materials, thereby conserving soil moisture, lowering soil temperatures, and supporting more (and more diverse) life in the soil
4. Plants diversity to develop echo system. Plant diversity through rotation that maintains biodiversity above and below ground

Industrial agriculture interrupts essential natural processes that sustain soil fertility. Instead of supplementing natural ecosystem dynamics, this kind of agriculture substitutes its inputs of energy and chemicals which disrupt and/or displace biological processes. In addition to the visible soil organisms that contribute to soil fertility by improving soil structure and function (earthworms, ants, mites, termites, etc.), there are uncountable millions of unseen microorganisms which also perform necessary functions. Soil microbes are of two kinds: aerobic needing oxygen, and anaerobic being harmed by it. When the soil is flood-irrigated, aerobic organisms are drowned and suffocated with ploughing; and anaerobic organisms suffer from their exposure to air. Plowing also removes organic soil cover, resulting in higher soil temperatures that kill microbiota and oxidize organic matter.

Agricultural productivity depends fundamentally on the sustained fertility of soil systems and on the sufficiency of productive resources – land, water, labor and capital.

SUCCESS STORY OF DR. HADI BUX JATOI A PROGRESSIVE GROWER AND DAIRY FARM ENTREPRENEUR

Dr. Hadi Bux Jatoi, former Director General Health Sindh owns a dairy farm at Hyderabad. Unlike, traditional business prone dairy farmers he



usually applies methods gained through his experience of domesticating animals. His rich experience in buffalo keeping started in 1966. He inherited the modus operandi from his ancestral propensity of animal keeping. He owns cows of different breeds like Australian breed, Sahiwal breed, Sahiwal cross breed with Australian cows. He has around 225 milking cows and 150 calves.

Dr. Hadi Bux says that there are several important things one needs to know before starting this business. Following are some key points before getting into the dairy farming business:

- Background knowledge and related experience of the entrepreneur in dairy farm operations.
- Application of good husbandry practices such as timely feeding, watering and vaccination to ensure animal's health and disease-free environment.
- Awareness about the supply and demand of milk in the market as demand of milk is relatively higher in summer as compared to winter season.
- Efficient marketing of the project and bulk supply to wholesalers

The milk production process of dairy farms in Pakistan starts with the selection of the right animal such as Nili-Ravi and Kundi and cattle breeds such as



Sahiwal, Red Sindhi and Cholistani. Crossbred cows (cross of local non-descript cows with semen of exotic breeds e.g. Holstein, Friesian and Jersey) may also be considered. Good housing leads to good

management practices and ultimately optimum production. Generally, housing shed is:

- Less expensive
- Well ventilated, comfortable and dry with hygienic environment
- Equipped with easy drainage system and mechanism for removal of dung urine and waste material
- Protected from extreme environmental conditions
- Having maximum sun exposure: axis of length to be east to west
- Available with feed and water for 24 hours
- Planned so that future expansion may be possible when required

Milking animal should be fed 1 kg of concentrate feed per 3 liters of milk produced. Green fodder should be supplied @ 8-10% of body weight to the animals. Additionally, urea molasses blocks and salt blocks can help in better milk production. New born calves should be fed colostrum and milk @ 8-10% of body weight for first month of age. After that, green fodder should be added to its feeding plan.

Supply clean drinking water in clean troughs i.e. 50 to 80 liters of water consumption/adult animal/day round the clock maintains the milk production capacity of the animal.

Dr Hadi Bux says that Hygienic and clean milking twice a day (morning/evening) lowers the chances of mastitis as udder health and hygiene is most



important in dairy animals. Proper storage of milk should be done preferably at temperature of 4 c for which he has milk chilling plants at his farm. Each cow gives about 14 to 15 kg milk twice a day, making overall sale of 15 to 20 maunds of milk daily. He has contracted with the engro foods and they daily purchase milk from the farm.

Dr. Hadi plans to supply milk in sealed bottles with his brand name, envisaging market trends. This bottled milk will be delivered daily to different stores and marts with expiry date of 2 to 3 days.

زرعی سفارشات برائے کسان

بھاریہ مکئی

- ﴿ بھاریہ مکئی جنوری اور فروری کے مہینے میں کاشت کی جاتی ہے۔
- ﴿ بھاریہ میرا، گہری اور نامیاتی مادہ والی زمین بھاریہ مکئی کی کاشت کے لیے موزوں ہوتی ہے۔
- ﴿ وٹوں پر کاشت کے لیے صاف ستھرا بیج 8 سے 10 کلوگرام جبکہ بذریعہ سنگل روکائن ڈرل بارانی علاقوں میں 12 سے 15 کلوگرام بیج فی ایکڑ استعمال کریں۔
- ﴿ مکئی کی کاشت وٹوں پر کریں اور موسم کی صورت حال دیکھ کر کھیت میں پانی لگائیں۔ جہاں پانی کھڑا ہو اس کے نکاس کا انتظام کریں۔
- ﴿ فاسفورس اور پونٹاش کی تمام جبکہ نائٹروجن کی ایک چوتھائی مقدار بوقت بوائی ڈالیں۔

تیلدار اجناس

- ﴿ بھاریہ سورج مکھی کی بروقت کاشت اچھی پیداوار کے لیے ضروری ہے۔ مغربی پنجاب میں کاشت کا وقت 10 سے 31 جنوری تک جبکہ ریٹلے علاقوں میں بھاریہ سورج مکھی کی کاشت کا وقت 25 جنوری سے 15 فروری تک ہے۔
- ﴿ کاشت بذریعہ ڈرل کریں۔ قطاروں کا درمیانی فاصلہ 75 سینٹی میٹر رکھیں۔
- ﴿ 23 کلوگرام فاسفورس اور 23 کلوگرام پونٹاش جبکہ 1/3 حصہ (20 کلوگرام) نائٹروجن بوقت بوائی ڈالیں اور بعد میں ہلکی آبپاشی کریں۔

گندم

- ﴿ گندم کا پودا اس وقت شگوفے بنا رہا ہوتا ہے۔ اس لیے اس وقت آبپاشی کا خاص خیال رکھا جائے۔ تاکہ پودوں کی بڑھوتری اچھی ہو۔
- ﴿ جڑی بوٹیاں گندم کی پیداوار کو 42 فیصد تک کم کر سکتی ہیں۔ اس لیے کاشتکاران کی تلفی کے لیے خصوصی توجہ دیں۔
- ﴿ جڑی بوٹی مارز ہروں کے سپرے کے لیے 100 یا 120 لٹر پانی فی ایکڑ استعمال کریں۔
- ﴿ ریٹلی زمینوں میں سفارش کردہ پوریا کھاد کو چار برابر اقساط میں ڈالیں۔

چنا

- ﴿ چنے کی فصل کے گاؤ کے 30 تا 40 دن بعد جڑی بوٹیوں کی تلفی کے لیے پہلی گوڈی کریں۔ اور دوسری ایک ماہ بعد کریں۔
- ﴿ کابلی چنے کی فصل کو پہلا پانی فصل کی بوئی کے 50 سے 60 دن بعد اور دوسرا پھول آنے پر دیں۔ اگر چھپلی فصل دھان کی تھی تو چنے کی فصل کو آبپاشی کی ضرورت نہیں ہوگی۔

سبزیات و باغات

- ﴿ نٹل کے اندر لگائی گئی سبزیوں کی آبپاشی اور کھاد کا بروقت استعمال کریں اور وقت پر گوڈی کریں۔
- ﴿ چھوٹے قطعات میں ایسی سبزیات کاشت کی جائیں جو کافی دیر تک پیداوردیتی رہیں۔ مثلاً پالک، دھنیا، پیٹھی وغیرہ، جبکہ 3 سے 5 مرلہ کے قطعہ میں ان سبزیات کے علاوہ گوبھی، ٹماٹر، شلجم اور مولی سمیت دیگر سبزیات بھی لگائی جاسکتی ہیں۔
- ﴿ کورے سے بچانے کے لیے مندرجہ ذیل سفارشات پر عمل کریں:

- ﴿ سبزیوں کی پیڑی کو پلاسٹک شیٹ سے ڈھانپ کر رکھیں تاکہ موسم کے اثرات سے بچا جاسکے۔
- ﴿ پودوں کے تنوں پر بورڈکسپر کی سفیدی کی جائے۔
- ﴿ کورا پڑنے پر کھیتوں میں ہلکا پانی لگائیں۔
- ﴿ پھلدار پودوں پر پونٹاشیم نائٹریٹ بحساب ایک فیصد سپرے کرنے سے بھی پودوں کو کورے سے کافی حد تک بچایا جاسکتا ہے۔

MANAGEMENT TIPS

Use Incentives to Boost Employees



Work incentives will always boost employee motivation. They do not need to be pricey or anything with high value. As a leader, you could give incentives like more paid rest days, gift certificates, movie tickets, or other inexpensive avenues to express some appreciation to your beloved staff. In any case, cash incentives are always good rewards, too. Incentives could be recognition rituals as

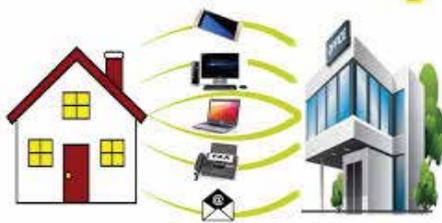
well, every meeting begins with each section leader acknowledging someone, who has achieved far more than what is expected for the organisation. The positive feedback loop is what keeps teams going, and it keeps the management responsible for recognising their staff.

Source: <https://knowhownonprofit.org>

Embrace Telecommuting

Allowing your employees to work from home might seem inefficient – after all, how can you guarantee that they will still be productive if no one is watching them? However, the reality is

Telecommuting



quite the opposite (in fact, studies show that people who work from home are 13% more productive than office employees). Letting your employees telecommute will allow them to save time that would otherwise be wasted completely. For example, say an employee is feeling too ill to come in to work (or is simply worried about getting their coworkers sick) but can still be productive. If you don't allow them to work from home, they will be forced to take a sick day and skip working all together. Or, forcing your employee to miss an entire day of work if they have to wait for that 2-4 hour period to get their refrigerator fixed, simply isn't efficient. Instead, allow your

employee to work from home so they can maximize what time they do have available.

Source: *Alexendra Hicks*

When Things Go Wrong

Sometimes people mess up and make mistakes. The best thing to do when things messed up is to simply correct and keep moving. There is no need for emotional entanglement in these cases (though you may experience frustration/anger/ annoyance), because it can only make things complicated.



Source: *Aaron Lynn*, <http://www.asianefficiency.com>

Perception is Reality

If a client continually gets a voicemail greeting when he or she calls with a question, the client is going to perceive that you're aloof, unavailable, and uninterested in helping him or her. That's his or her reality, even though your reality is that you're just busy. When you're in the service business, your reality doesn't matter.



Source: *199 IDEAS, Member Service and Engagement, ASAE*

Employee Empowerment

Empowerment occurs when an employee is given the freedom, power, trust, autonomy, and encouragement to carry out jobrelated tasks. When used as a motivational strategy,



empowerment can provide an employee with a sense of pride and ownership over their work. People want to feel in control of their destiny, especially in the workplace. Essentially, empowerment provides a worker with intrinsic, or self-induced, rewards by allowing them to make decisions on their own and see the success that follows. Employees associate their success with their own abilities, motivating them to continue to strive for higher levels of productivity in future tasks.

Source: <http://study.com>

NATIONAL NEWS

Sunflower Sowing - PAD Issues Schedule

The Punjab Agriculture Department (PAD) issued a schedule of sowing for sunflower growers of the province advising them to complete the cultivation according to this proposed time frame. The province has been divided in to three zones and as per advisory the first zone comprise of District Bahawalpur, Rahim Yar Khan, Khanewal, Multan, Vehari and Bahwalnagar where farmers can cultivate sunflower crop till 31st January. Second zone consists of District Muzaffargarh, Dera Ghazi Khan, Layyah, Lodhran, Rajanpur and Bhakkar where sunflower can be sown till 10th February.

Last and third zone contains Mianwali, Sargodha, Khusab, Jhang, Sahiwal, Okara, Faisalabad, Sialkot, Gujranwala, Mandi bahudin, Lahore, Kasur, Sheikupura, Nankana Sahib, Narowal, Attock, Rawalpindi and Chakwal districts where cultivators can grow sunflower from January 25 till last of February.

Whitefly & Pink Bollworm: Off-Season Survey in Cotton Belt to be Initiated: PARB CEO

Punjab Agriculture Research Board (PARB) Chief Executive Officer Dr Noor-ul-Islam Khan has said that offseason survey for whitefly and pink bollworm in the cotton belt would be initiated to identify its species, seasonal occurrence and host plant ranges.

In this regard, he chaired a meeting of whitefly and pink boll worm held at the Department of Entomology, University of Agriculture Faisalabad. Dr Noor-ul-Islam said PARB had given two projects on management of whitefly and pink boll worth 75 million to the Department of Entomology UAF in which eight agricultural institutions across the province are working collectively for the noble cause. He also directed the meeting to identify plants that work as whitefly and pink boll worm deterrent for the better management in the cotton belt. He said modern practices must be promoted and practiced in the fields to fight the attack of different insect on the different crops.

He added that plant protection measures help jack up per hectare yield of different crops. He stressed upon the need to promote modern trend to fight the insects in the field. He lauded the Entomology Department for conducting a survey on the directives of the Punjab Government in the cotton belt on pink bollworm and whitefly two year ago. He said the

scientists of the Department are working round the clock on the different pests. He said that Centre for Excellence on whitefly and pink bollworm will be established at the Entomology Dept, UAF.

Farmers Warned to Protect Crops

Farmers should ensure measures to protect crops, nurseries and orchids from extreme cold weather, the Met Office has said. It said that the farmers should also remove weeds from standing crops to help improve yield. It warned that weeds cause a considerable loss in production annually. Growers should also plan crops irrigations during the winter season.

Temperature during night is expected to drop slightly by 1 to 2 degree Celsius while in day likely to remain slightly normal in the most parts. Normal wind pattern is likely to prevail over the most agriculture plains. It alerted farmers of Southern Punjab and Upper Sindh to sandstorms until January 20. Mainly dry and cold weather is expected to prevail over agriculture plains of Punjab and Balochistan while in the most parts of Sindh and Kashmir. A light to moderate rainfall and snowfall over the mountains of Khyber Pukhtunkhwa and Gilgit-Baltistan are expected over the period.

Judicious Use of Fertilizer Stressed

Agri Scientists and Experts have observed that country can save billions of rupees by ensuring balanced usage of fertilizer that will also overcome decreasing soil fertility. It was discussed at a meeting of fertilizer model experts and soil fertility model held at University of Agriculture Faisalabad (UAF) main library with Vice Chancellor Dr Muhammad Iqbal Zafar in the Chair.

Dr Iqbal Zafar said that imbalance usage was not only causing fertilizer wastage and but also a reason behind low productivity. He said that UAF fertilizer model had gained immense popularity among the farming community. It is aimed at enabling farmers getting desired yield of major crops according to soil analysis.

He said that through the model, we have disseminated the information among 3.5 million farmers through short message (SMS) so far. He said that in last four months, 30,000 farmers have benefited from the model that resulting in increasing the productivity and reducing the cost of production. He said we cannot apply fertilizer of Faisalabad Model at Multan region as the soil texture, fertility, and analysis is entirely different from each other.

www.brecorder.com

ZTBL NEWS

Hajj Draw Ceremony – 2018



Hajj draw ceremony was held at ZTBL, Head Office Islamabad. ZTBL is sponsoring 23 of its employee to perform Hajj during the year 2018. President Syed Talat Mahmood announced the names of lucky ones through computerized draw. He congratulated the lucky employees and asked them to pray for the progress and prosperity of the country and the Bank as well.

Farewell Bestowed to Executives of ZTBL



Keeping the tradition of acknowledging the long standing services of the valuable human resource of the Bank, farewell ceremony for Mr. Khalid Mehmood Gill – SEVP (HR Division) and Mr. Asaf Chaudary (EVP-Finance Division) was held at Head Office Islamabad.

The occasion was graced by the President, Chief Operating Officer and all the Divisional Heads. The Management acknowledges their contributions to the organization and wishes them for their future endeavors.

Twentieth Sustainable Development Conference

Sustainable Development Policy Institute (SDPI) organized Twentieth Sustainable Development Conference (SDC) titled 'Seventy Years of Development: The Way Forward' from 5th – 7th December 2017 at Marriot Hotel Islamabad.

Twentieth SDC during the 25th year of SDPI examined 70 years of development in Pakistan and the region with participation from around the world. A total of 269 panellists representing the following 16 countries became part of this mega event: Afghanistan, China, Ethiopia, Finland (Via Skype), France, Germany, India, Italy, Nepal, Pakistan, Thailand.

Mr. Farhat Karim Hashmi - EVP P,R&TD, Mr. Muhammad Rashid- SVP, P&RD, Ms. Abida Razzaq - VP, P&RD and Mr. Ahmed Hussain Khan – OGIII, P & RD participated in the above mentioned conference and gave suggestions in Round table session on Innovative Climate Financing Mechanism for Financial Institutions.

Former ZTBL's SEVP Attained IBP Fellow Membership

The Institute of Bankers Pakistan working for professional training & development of bankers has admitted Mr. Khalid Mehmood Gill, Ex Senior Executive Vice President ZTBL as a Fellow member of the Institute. Mr. Khalid Mahmood, ex-SEVP is the first one from ZTBL to get this fellow membership from the Institute which is honor for him as well as for the Bank.



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Technology for Agriculture