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ROLE OF ICT'S IN AGRICULTURAL DEVELOPMENT: A CASE STUDY FROM JAZZ BA-KHABER KISSAN SERVICE

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Abstract:



Agricultural sector has been considered as the backbone of Pakistan's economy. More than 69% of Pakistani population depends on agriculture for subsistence. In Pakistan, more than 100 agricultural research stations are working and the department of agricultural extension is responsible to transfer research knowledge towards the farmers but due to lack of resources and geographical spread of farmers, it is very difficult to reach each and every farmer for dissemination information. ICT's has converted the world into the global village and made information access very easy. In 2010 Pakistan Telecommunication Authority reported about 120 million cell phone users in the country. In Pakistan most of the rural population also own cell phones. Keeping in view the main weak point in the agricultural sector, Jazz, being one of the well-known cellular company in Pakistan launched a project Ba Khaber Kissan using Information Communication Technologies. Ba Khaber kissan Project is responsible to provide the Agricultural Extension services to the farmers through SMS, VMS, Mobile application, Web portal, IVR and farmers' complaint call center. This research study was conducted to identify the role of Ba Khaber kissan project in dissemination of improved agricultural technology among the farmers from the farmers' complaint center.

Need for Research

In Pakistan, Agricultural Extension services have traditionally been organized as part of the Provincial Ministry of Agriculture. Numerous extension models and approaches have been practicing since independence, including the Village Agricultural and Industrial Development Programme (Village -AID Programme), Basic Democracies System (BDS), Integrated Rural Development Programme (IRDP) and Inputs at Farmers' Doorsteps Approach. Based on the linear approach, these programs met with limited success and were abandoned one after another. The present Training and Visit (T & V) program, while specifically focused on agriculture, also suffers from inherent inflexibilities, namely the over-reliance on contact farmers to diffuse technical information to surrounding farmers (Davidson, 2000). Unfortunately none of the research has achieved its desired objectives. Department of Agriculture Extension is doing an excellent job but due to lack of resources and geographical spread of farmers it is not possible to reach each and every farmer. Keeping in view the revolution in the telecom sector some of the VAS and telecom companies launch projects for the dissemination of improved research based agricultural technology among the farmers. Up till now no one has conducted research on the role of ICT's in Agriculture.

Therefore this research study was conducted to explore Role of ICT's in Agricultural Development; A case study from Jazz Ba- Khaber Kissan Service.

Objectives

General Objective

- Role of ICT's in Agricultural Development; A case study from Jazz Ba-Khaber Kissan Service

Specific Objectives

- To check the satisfaction level of the farmers about Jazz Bakhaber Kissan Service
- To check the farmers participation and interest in the Service
- To identify the strengths and weaknesses of Jazz Bakhaber kissan Service

Assumptions of the Study

- The research will be shared with the agricultural policy makers to use the ICT's as a complement and supplement to the department of Agricultural Extension
- Use of mobile phone technology as a new Agricultural Extension Approach
- Help in developing the linkages of Jazz Bakhber kissan project with agricultural stakeholder.
- It was predicted that results would help for putting more efforts in a better way for achieving desired objectives.

Methodology



The data was collected via simple random sampling technique. The samples of 120 farmers were selected who were in contact with Bakhber kissan project to get required information. For the purpose of data collection interview schedule was designed. The detailed telephonic interviews were conducted with the farmers who subscribe to Bakhber Kissan Service (03030300000). The data was analyzed by using Statistical Package for Social Sciences (SPSS) on the basis of analysis, conclusions were drawn and recommendations were made.

Conclusions

Following conclusions have been drawn on the basis of investigation and discussion of collected data.

- The data was collected from both male and female respondents; the majority (90%) of the respondents were male, whereas only 10% were female.



- (39.17%) of the respondents were from Punjab province, (33.33%) from KPK. 19.17% of the respondents were from Sindh province whereas only

08.33% of the respondents belong to Balochistan Province.

- Three quarter (60.83%) of the respondents were young farmers (19-30 years), one fifth of the total sample were middle age (30-50 years) and only 05.84% of the respondents fall under old age (>50 years) category.

- Majority (77.50%) of the respondents i.e. had small land holding (up to 12.5 acres), while 15.83% of the respondents had medium land holding (>12.6 to 25 acres) and only 6.67% of the respondents had large land holding (i.e. more than 25 acres).

- Most (50%) of the respondents subscribed BKK service because it helps them in solving their field problems, (33.33%) of the respondents subscribed BKK service because they found it interesting and slightly more than ten (11%) of the respondents subscribed BKK service because they want to increase their farm productions.

- (37.50%) of the respondents used to call BKK services on daily basis, 21.67% used to call weekly, 19.17% call BKK service fortnightly, 14.17% said sometimes they call BKK service, whereas only 07.50% respondents never called BKK services.

- An over-whelming majority (82.50%) of the respondents noted positive response of the Ba Khaber Kissan staff towards their problems and 17.50% of the respondents said that the Ba Khaber kissan shows negative response to their problems.

- Respondents were asked about the information they get from Ba Khaber Kissan Service, in response it is concluded that one person use to ask about more than one aspect, most of the people use to ask about mandi rates, one fourth of the total respondents use to ask about seed varieties, same results were found for weeds control, slightly more than one fifth of the total respondents have queries about weather updates, about 16% use to ask about land preparation almost same result were found for sowing method, 12.5% used to ask about disease control, pests control and marketing techniques, same percentage which is almost 10%, were found for harvesting methods.

- Most of the respondents (45.83%) were strongly satisfied with the seed selection information they get from Bakhber Kissan service, 15.83% with plant protection and plant management, 13.33% with fertilizer application information, 11.67% with weeds control information, 6.67% with the information provided on marketing their product, 5.83% with

guidelines provided regarding sowing. Furthermore, a fair majority (66.67%) with the sowing information, 47.50% with marketing, 43.33% with plant management information, 40.00% with weed control recommendations, 37.50% with fertilizer application information, 34.20% with plant protection information and 21.67% of the respondents are partially satisfied with recommendations regarding seed selection. Moreover, 50.00% of the respondents were satisfied with plant protection, 45.00% with weed control, 42.17% with fertilizer application, 38.33% with pest management advices and 32.50% with seed selection. However, 26.67% of the respondents were not satisfied with information provided regarding marketing of their product effectively, 6.67% of the respondents were not satisfied with suggestions regarding fertilizer application, 3.33% of the respondents were not satisfied with information regarding weed control, 2.50% of respondents were not satisfied with information provided regarding plant management and only a small number of respondents were not satisfied with information provided on sowing practices.

- Satisfaction level regarding various aspects related to agro advisory services provided from Bakhaber Kissan service are as follows:

- The advisory services were regarding fertilizer application ranked 1st with mean 2.27 and having weighted score (272). Weeds control ranked 2nd with mean 2.03 having weighted score (244), pest management ranked 3rd with mean 1.97 having weighted score (235), plant protection ranked 4th with mean 1.72 having weighted score (206), sowing ranked 5th with mean 1.66 having weighted score (199), seed selection ranked 6th with mean 1.55 having weighted score (186) and marketing ranked 7th with mean 1.37 having weighted score (164) respectively.

Recommendations

- The Agricultural extension process fasten because of ICT's (Mobile phones) in agriculture, it saves time and money, accurate information at farmers door step, government must create the linkages between the research institutions, agricultural stake holders and telecom sectors working for agricultural development to ensure that the accurate research based information is transferred to the farming community.

- Government and agricultural policy makers must strengthen the ICT's in agriculture and involve the agricultural extension department and academic agriculture extension students as a compliment and supplement to ICT's, So that the information generated to pass on through SMS, mobile application and farmers' complaint center must be created keeping in view the farmers level of understanding.

- There must be some road shows, farmers' days, Agricultural workshops and trainings for awareness of farming community about the features of these agricultural based ICT's services so the farmers may know the usage of the services. These activities will also be important to penetrate the use of ICT's at ground level.

- To improve ICT infrastructures sufficient funding must be provided to both the research and extension organizations.

HEALTH BENEFITS OF TARO ROOT VEGETABLE

Taro root, is a thick, tuber stalk of the taro plant which is important part of global cuisines and diets. Taro root is considered to be one of the first cultivated plant in human history.

Its scientific name is *Colocasia esculenta* and it has a fascinating history. It is believed to be native to Southeast Asia and southern India, but it is



Leaves of the dasheen kind of taro

cultivated and used in many places all around the world. Fascinatingly, it seems as though every culture uses taro in a slightly different way, depending on how it is prepared and the variety of the crop that is grown.

It is also one of the few crops that can grow in flooded areas, due to its petioles, which can transfer materials even whilst underwater. It is a staple food in African, Indian, and



A cross-section of a small taro

it can be found everywhere from Japan, Egypt, and Suriname to the United States, Fiji, and Spain.

Health Benefits of Taro Root

The health benefits of taro root include its ability to improve digestive health, prevent cancer, improve vision health, and much more.

Digestive Health

One of the most important functions of taro root in the diet is its role in digestion. The high level of dietary fiber found in taro root (a single serving contains 27% of the daily requirement of dietary fiber) makes it very important for supporting our gastrointestinal health. Fiber helps to add bulk to our bowel movements, thereby helping food move through the digestive tract and facilitating improved digestion. This can help prevent certain conditions such as excess gas, bloating, cramping, constipation, and even diarrhea.

A healthy, regulated gastrointestinal system can greatly boost your overall health and reduce your chances of various types of cancer.



Cancer Prevention

Taro root also plays an important part in the antioxidant activity in our body. The high levels of vitamin A, C, and various other phenolic antioxidants found in taro root boost our immune system and help eliminate dangerous free radicals from our system. Free radicals are the dangerous by-products of cellular metabolism that can cause healthy cells to mutate and turn into cancerous cells. By eliminating these free radicals, our general health is almost guaranteed! Cryptoxanthin, which is found in taro root, is directly connected to a lowered chance of developing both lung and oral cancers.

Diabetes Prevention

Dietary fiber can also help lower the chances of developing diabetes because it regulates the release of insulin and glucose in the body. If you have a sufficient level of fiber, which taro root provides, then you can manage your glycemic levels and lower your chances of developing diabetes. If you have diabetes, then fiber-rich foods like taro root can help prevent the dangerous spikes and plunges in blood sugar.

Improved Heart Health

Taro root contains a significant level of potassium, which is another essential minerals that we need to remain healthy and functional. Potassium not only facilitates healthy fluid transfers between membranes and tissues throughout the body but also helps to relieve stress and pressure on blood vessels and arteries. By relaxing the veins and blood vessels, blood pressure can be reduced and thus the stress on the overall cardiovascular system is reduced. Potassium has even been connected to increased cognitive function because neural connections can be boosted when blood pressure is reduced, and fluid transfer between neural membranes is optimized.

Vision Health

Taro root contains various antioxidants, including beta-carotene and cryptoxanthin. These antioxidants can help improve vision as well, by preventing free radicals from attacking ocular cells and causing macular degeneration or cataracts.

Skin Care

Between vitamin E and vitamin A, our skin is well protected when we add taro root to our diets. Both of these essential vitamins work to eliminate skin conditions and boost overall cellular health, meaning that our wounds and blemishes heal faster, wrinkles can be diminished, and a healthy glow can be returned to the skin. Taro root is nature’s little secret to healthier skin.

Boosts Immune System

Perhaps the most important element of taro root for health is its role in the immune system. It has a very high level of vitamin C in each serving, which stimulates the immune system to create white blood cells, which defend the body from foreign pathogens and agents. Furthermore, vitamin C acts as an

Organic Facts

HEALTH BENEFITS OF TARO ROOT

- Lowers risk of developing diabetes
- Reduces risk of lung and oral cancer
- Beneficial in increasing cognitive function
- Helps to prevent anemia and boost blood circulation
- Prevents excess gas, bloating, cramping and constipation
- Helps to relieve stress and pressure on blood vessels and arteries
- Boosts vision and reduces risk of macular degeneration or cataracts

Caution: Excess intake may cause obesity

antioxidant, which partially prevents the development of conditions such as heart disease and cancer.

Source: www.agrifarming.in

www.organicfacts.net

POST-HARVEST HANDLING OF GROUNDNUT



Postharvest loss accounts for direct physical losses and quality losses that reduce the economic value of crop, or may make it unsuitable for human consumption. In certain cases, these losses can be up to 80% of the total production. Post-harvest losses during storage are among the major problems of the tropical environment, where high relative humidity and temperature are prevalent. As a consequence, mould growth in groundnut seed contributes considerable to bio-deterioration. Groundnut being an oilseed crop is more prone to mould attack than starchy seeds. Lipid peroxidation results in the formation of aldehydes, ketenes and other low molecular weight compounds, which may cause off-flavors and odors in stored groundnut seed. Further, these react with proteins, amino acids and vitamins to decrease the seed quality. Maintenance of seed quality increases with increasing impermeability of packaging and storage material. Seed stored in shells resulted in 50 percent greater viability than storage as kernel.

Harvesting

It is very important to harvest groundnuts at the correct time. If harvested too early, the seeds will shrink when drying which lowers the oil content and quality of the seed. Delays in harvesting results in poor quality seed due to mould infections and subsequent aflatoxin contamination of the seeds/pods. Late harvesting also reduces yield because higher proportions of the pods are left in the ground (Pegs being weak and the pods breaking off). Late

harvesting also causes some non-dormant varieties to begin sprouting in the field resulting in yield losses.

In order to determine the best harvest date, a farmer must scout his/her crops on a regular basis, as the groundnut plant usually gives an indication of when to harvest. The number of days to maturity varies with cultivars.

There are following characteristics that require close attention and observation to determine harvest maturity:

- A proper time to commence harvest is when a good number of pods are fully developed and are intact.
- Maturity of pods is achieved when the vines begin to turn yellow and leaf shedding starts.
- The insides of the shells should be examined, if majority of the pods (70% upwards) have dark markings inside the shell and the seeds are plump and the correct colour for that variety, then the groundnuts are mature and ready for harvest.
- The estimated period of maturity for each variety can be used as a rough guide (i.e. the calendar method).

Manual Harvesting Process



The method of harvesting to be used depends on type of groundnut grown. In bunch types pod development is confined to the base of the plant and pegs carrying the pods into the soil are thick and strong. That is why the bunch type of groundnut is mostly harvested by pulling out the plants with manual labor. The spreading or semi-spreading types produce pods all along the running stem. This type of groundnut is harvested either manual or by using a blade harrow or ox-plough. The soil should be sufficiently moist for easy harvesting and without losing pods in the soil.

Mechanical Harvesting

The groundnut digger-shaker-windrower is used to lift groundnuts and detach them from the soil. It digs

deep enough to prevent cutting pegs. Windrow-inverting attachments orient plants as they leave the shaker so pods are primarily on the top of windrows to permit greater air circulation and exposure to sunlight for a shorter drying time. However, groundnuts remaining in windrows for several days are more susceptible to weather damage than those that are freshly extracted.



Cleaning

When groundnuts are harvested they contain a wide range of undesired material. This affects quality, beginning with airflow restrictions and uneven moisture distribution during drying. More than 5% of the material can result in reducing the value of a farmer's saleable product in the market.

The stacking process: Groundnuts can be packed into bundles and stacked. It is important to shake off loose soil before stacking. The stacks are formed with a core of 15 to 40 plants placed on their leaves with the pods facing upward. A properly formed stack will not lodge or become damp when it rains. Stacks are then left on the land for four to eight weeks for final ripening and moisture loss before being picked.

Picking and shelling: The method of picking involves removing of pods from the entire plant. Plants are fed into the picker and shells are separated from plants. Hand-operated machines are also used for shelling groundnuts pods. Close monitoring to avoid quality loss is also important during shelling.

Sorting

Sorting is done to ensure that undesired weeds, seeds, stones and leaves are removed from the desired ones. Grades of groundnuts should be sorted according to their colours and sizes so that market demands can be met, and they must be free from insects and musty.

Storage

The points to be noted while storage of groundnuts are following:

- The best way to store groundnuts is in their shell
- Store the groundnuts when moisture content is between 7-8%
- Never bag groundnuts for storage when the pods are still damp
- Before storage remove broken, damaged, poor and fungus- infected nuts
- Store in a well ventilated and cool place
- Do not store in plastic bags as they restrict air circulation and this promote fungal infection
- Apply Actellic super (pirimiphosmethyl) on unshelled pods before storage to control storage pest

Storage in Gunny bags



Gunny bags are recommended as they allow air circulation. They should not be covered with plastic or tarpaulin (canvas) which may restrict ventilation and increase condensation.

- Bags should be stored away from the ground on wooden slats. If bags are stacked, a gap should be left between stacks
- Do not stack more than 10 bags high.

Hermetic storage - PICs bag

This is a recent technology in grain storage in which the sack is lined with two tough layers of polythene bags. This ensures reduced oxygen supply and increased carbon dioxide in storage. These conditions are not suitable for respiration of storage pest.

Storage Pests

Groundnuts are stored both as unshelled pods and as kernels for different reasons. Both forms are vulnerable to attack by a plethora of insect pests after

harvest like foreign grain beetle, Checkered beetle lesser mealworm, Coffee bean beetle, Corn sap beetle, Rice moth, Pod sucking bug etc. The amount of damage inflicted by these pests during storage depends on several factors such as:

- The moisture content in the product
- The way in which groundnuts are stored
- The level of maturity at harvest
- The sanitation of the storage space
- The quality of the groundnuts themselves

Prevention of infestation

- Good warehouse management and hygiene are key to preventing insect infestation in stored groundnuts. Before shifting groundnuts to a storage facility, they should be thoroughly cleaned and free from crop residues.
- Pod storage: Insect pests that attack groundnuts after harvest prefer kernels as they are unable to infest intact pods. Keeping groundnuts in pods for as long as possible is an effective strategy in limiting pest damage.
- On farms groundnuts are often stored as pods and it may not be possible for smallholder farmers to provide high quality storage conditions. In such cases, pods should be stored in polythene lined gunny sacks or in some other safe storage structures (e.g. small seed bins, earthen pots, or metal drums) in a well-ventilated and rodent free room. For example, in Asia well dried pods are stored in earthen pots of 20-25 kg capacity lined with dried banana leaves. The top of the container is filled with a thin layer (one cm depth) of rice and then sealed with mud. This facilitates effective storage against insect pests without affecting the groundnuts' viability.

Packaging

Groundnuts of different grades cannot be packed in the same container. For the purposes of the application of the regulations a consignment of groundnuts should be packed in containers that are suitable, intact, clean, dry, odorless and strong enough.

Transportation

The most frequent mode of transport for groundnuts is by road trucks or railway wagons and ships, and in very rare instances air cargo can be used. The tremendous increase in the fuel price in South Africa

could affect the producers' profit if the seeds are to be sold in remote areas.

Marketing



Marketing practices vary among the developing countries. Within 3 to 4 weeks after time of harvesting farmers take about 70 to 80 percent of their produce personally to the market to fulfill their cash requirements. The marketable surplus of the small and marginal farmers is so small that they do not find it economically feasible to take it to wholesale markets, even though these distant markets often offer better prices. Rural markets often lack facilities and are generally strips of land serving as a meeting place between buyers and sellers. In Pakistan, marketing period for the rainy season crop commences in October and remains till February, with a peak between November and December. Within this period about 45 percent of the marketable surplus of groundnut arrives in the markets. The disposal of the produce, either at the market or in the village is closely connected with the producers holding capacity. The sales in the village level markets are invariably in the form of pods, while in the assembling markets transactions take place both in the form of pods and kernels. Regulated markets have been organized in some of the main groundnut producing areas, which provide certain amenities to the sellers and forbid exorbitant market charges and malpractice of the traders. The number of regulated markets and the volume of produce passing through them are still inadequate.

Sources:

- *Groundnut Production Guidelines, Department of Agriculture, Forestry & Fisheries, Republic of South Africa*
- *Farmer's Training Manual on Post Harvest Management of Sorghum, Groundnut and Rice. European Union's Project on Enhanced Value Addition and Strengthening Value Chains in the Greater Bahr el Ghazal Region, The UNIDO.*

SUCCESS STORY OF MR. SAJJAD NAYOON A PROGRESSIVE FARMER

Mr. Sajjad Nayoon has been looking after his mango orchard for many years. Tando jam is midpoint between two major mango producing regions Mirpurkhas and Hyderabad, Sindh. He owns 32 acres of land where mango orchard/trees are spread. In



his orchard, he has planted around 25 trees on an area of one acre and each tree produces different quantity, Sajjad told in his interview with our team-PATU-based at Hyderabad.

The climate of the Sindh gets warm earlier than the Punjab which luckily gives the province privilege to grow early varieties of mango. Subsequently, the period of this seasonal fruit is extended as in Punjab late varieties of mango are grown. The main issue regarding mango production highlighted by Mr. Sajjad is post harvest handling of mango and its supply to market. As this fruit is soft and sensitive in nature according to growers, 30 to 40 percent of fruit is wasted in the harvest to market system.

Mr. Sajjad considers mango crop as sensitive to climatic conditions and soil type. It is the very reason that all soils are not conducive to produce mangoes. Being weather sensitive crop, heavy rains and hailstorm at the time of florescence badly affects its output. The mango orchards are attacked by a number of diseases including powdery mildew, blossom blight and anthracnose. There is need of timely plant protection measures, integrated pest management and disease control.

Plant protection is essential to enhance agriculture output and to improve quality of crop produce. The mango tree is not too particular as to soil conditions but thrive best in deep and well drained loam type of soils. The subsoil must be free of hard span, sticky clay, water logged and saline conditions. The pH of soil must be within 5.5 to 7.5 but not more than 8.7. If the soil is heavy, very fertile, and moist and well fertilized, the tree will show vigorous vegetative growth and may be deficient in flowering and fruiting.

They are several varieties such as sindhri, siroli, chaunsa, langra, gulabi, neela, lal badashah etc. In Pakistan, the



recommended seasons for plantation of mango are spring and monsoon. In humid region like lower Sindh and Hyderabad the best season for field planting nursery trees would be August- September.

Irrigation: The frequency and amount of irrigation to be provided depends on the type of soil, prevailing climatic conditions, rainfall and its distribution and lastly ages of tree. Like no irrigation is required when there is already sufficient down pour during monsoon. Frequent irrigation during 2-3 months prior to the flowering season is not advisable as it is likely that it will promote vegetative growth at the expense of flowering. Irrigation should be given at 50% field capacity.

Mango Yield: Grafted mango trees start bearing from fifth year onwards. However, seedling trees may take 8-10 years. At the start of bearing age of 3 to 4 years, the yield might be as low as 10 -20 fruits (2-3 kg) per tree, rising to 50 to 75 fruits (10-15 kg) per tree, in the following years gives about 500 fruits (100 kg) in its tenth year. In the age group-20-40 years, a tree bears 1000-3000 fruits (200-600 kg) in one year. The productive age of grafted mango tree is 40-50 years, after which yield declines.



Usage of Mango as Valued Added Product: Mango is utilized at all stages of its development both in its immature and mature state. Raw fruits are used for making chutney, pickles, juices, jam jelly, marmalades etc. The ripe fruits besides being used for deserts, it is also used for making of squashes, syrups, nectar and so on. The mango kernel also contains 8-10 per cent good quality fat which can be used for soap and also as substitute for cola in confectionary.



زرعی سفارشات برائے کسان

دھان

- ❖ کھیت میں لاب کی منتقلی کے وقت پیڑی کی عمر 30 سے 40 دن ہونی چاہیے۔ اور منتقلی اس طرح کریں کہ فی ایکڑ پودوں کی تعداد 1 لاکھ 60 ہزار ہو۔
- ❖ پیڑی منتقل کرنے سے پہلے 15 دن تک کھیت میں پانی کھڑا رکھیں تاکہ پیداوار اچھی ہو۔
- ❖ دھان کی پیڑی پر زہر پاشی دوبار کی جائے۔ پہلی بار 8 تا 10 دن کی پیڑی پر سپرے کی شکل میں اور دوسری مرتبہ 15 سے 20 دن کی پیڑی پر دانے دار زہروں کی صورت میں۔
- ❖ جڑی بوٹیوں کے تذراک کے لیے دستی سپرے مشین سے سپرے کریں اور سپرے کے وقت کھیت تروترا حالت میں ہونا چاہیے۔
- ❖ اگر پیڑی کمزور نظر آئے تو 250 گرام یوریا یا 400 کلوگرام کمپلیمنٹ امونیم نائٹریٹ فی مرلہ کے حساب سے پیڑی کی منتقلی سے دس دن پہلے ڈالیں۔

کپاس

- ❖ چھدرائی کا عمل بوائی کے بعد 20 سے 25 دن کے دوران یا پہلے پانی سے قبل یا خشک گوڈی کے بعد ہر حالت میں ایک دفعہ مکمل کیا جائے۔
- ❖ کم آبپاشی والے علاقوں میں متبادل کھیلپوں میں پانی دینے سے بہتر پیداوار لی جاسکتی ہے۔
- ❖ سفید مکھی، ملی بگ، لشکری سنڈی اور لیف کرل وائرس کے میزبان پودوں کو تلف کریں کیونکہ یہ کیڑوں کی محفوظ پناہ گاہ ہیں ہوتی ہیں۔
- ❖ کپاس کی ہر قسم کی علیحدہ علیحدہ پیسٹ سکاؤٹنگ کرتے رہیں اور سپرے کا فیصلہ مختلف کیڑوں کے نقصان کی معاشی حد کے مطابق کریں۔

مونگ ماش

- ❖ بارانی علاقوں کے کاشتکار مونگ ماش کی کاشت مون سون کی پہلی بارش کے بعد دو آنے پر کریں۔ مونگ کی کاشت جولائی کے آخر تک کی جاسکتی ہے۔
- ❖ مطلوبہ پودوں کی تعداد حاصل کرنے کے لیے فی ایکڑ 8 سے 10 کلوگرام بیج استعمال کریں۔
- ❖ پودوں کی بڑھوتری کے لیے 8 سے 10 کلوگرام نائٹروجن فی ایکڑ استعمال کریں اور فاسفورس اور پوناش 23 کلوگرام آخری ہل چلانے کے بعد چھو کر دیں۔
- ❖ ریج ڈرل یا کیرا کے طریقہ سے کاشت کریں۔ اور قطاروں کا درمیانی فاصلہ 30 سینٹی میٹر جبکہ بیج کی گہرائی 3 سے 5 سینٹی میٹر رکھیں۔

جنر

- ❖ یہ ایک پھلی دار فصل ہے جو زمین کی زرخیزی بڑھانے کے لیے کاشت کی جاتی ہے۔ تاہم چند علاقوں میں بطور چارہ بھی کاشت کی جاتی ہے۔
- ❖ یہ فصل اگست تک کاشت کی جاتی ہے۔ البتہ مون سون کی بارشوں کے دوران کاشت کی جائے تو بڑھوتری اچھی ہوتی ہے۔
- ❖ چارہ اور سبز کھاد کے لیے کاشت کی جانے والی فصل کے لیے 20 تا 25 کلوگرام جبکہ بیج والی فصل کے لیے 10 تا 12 کلوگرام بیج فی ایکڑ استعمال کریں۔
- ❖ بہتر پیداوار کے لیے ایک بوری ڈی اے پی فی ایکڑ بوقت کاشت ڈالیں۔ پہلا پانی بوائی کے 18 تا 22 دن بعد لگائیں۔ سبز کھاد کاشت کے بعد 40 سے 50 دن بعد پھول آنے پر دیں۔

سبزیات و باغات

- ❖ ترشاوہ باغات کو 10 سے 15 دن کے وقفہ اور آم کے باغات کو 12 سے 14 دن کے وقفہ سے آبپاشی کریں۔
- ❖ سبزیات کو کیڑوں اور بیماریوں سے محفوظ رکھنے کے لیے زرعی ماہرین کی سفارش کردہ زہر مارا دیویات کا استعمال کریں۔
- ❖ امرود کی نرسری لگانے کے لیے زمین کی تیاری کریں اور انکوری فصل کی برداشت اور مارکیٹنگ کریں۔

Source: 1) Ziratanama Government of Punjab (Farmer's Advisory)

2) Fauji Fertilizer Company Limited (Farmer's Advisory Service)

MANAGEMENT TIPS

Making Your Virtual Team Successful

Getting team composition right is critical, especially for virtual teams, which are more autonomous than co-located teams. When putting together a virtual team, consider size and accountability. The best virtual team is a



small one—under 10 people. Four or five is ideal. Rather than creating a big team, consider keeping the core team small, with advisory groups providing input as needed. When virtual teams come together from a range of functions, leaders may lack formal authority over all team members. If team members are evaluated on their performance within the line of business they represent, rather than on their contributions or successful collaboration, members may feel a disincentive to collaborate. Instead, establish clear lines of accountability and uniform performance measures at the outset.

Source: Management Tip of the Day, Harvard Business Review

Taking the Lead in Resolving Workforce Mistakes



As a manager, you are responsible for resolving mistakes in your workforce. Now, how do you handle their errors? A good manager

does not lose its temper easily, instead he approach mistakes systematically. In giving an assignment, make it sure that you explain the task adequately and also consider the employees skills to perform the job. Open communication is essential to root out problems that cause mistakes. Ask lots of questions, listen to employees' concerns, and make them feel at ease coming to you about problems they're having. You don't want employees to hide their mistakes from you out of fear or mistrust.

Source. www.managebetter.biz

Keeping your Employees Happy without Spending a Fortune

1. Recognize and appreciate. Recognizing the contribution and efforts of employees—especially

publicly—is one of the main motivational tools you can use, and it doesn't cost a dime. "A thank you is worth its weight in gold," Bazire says. "Recognition



can take the form of an award such as Employee of the Month or Employee of the Year, a thank you card, or simply being congratulated in front of colleagues.

TIP: Strive to be transparent, objective and fair to avoid the perception you are favouring some employees over others.

2. Offer the opportunity to make a difference.

Employees become more engaged when they feel they work as a team where their voices are heard. Strengthen your employees' sense of belonging by communicating with them on regular basis. Listen to their opinions; they have great ideas. Have employees participate in activities that matter to them. Bazire gives the example of a contest to find the best way of recycling the cardboard boxes the company receives. The employee with the best idea gets a day off. **TIP:** Identify issues that your employees care about and can help to resolve.

3. Target continuing education. Regardless of what sector your company is in, providing employees with the opportunity for development through continuing education is highly motivating. Courses, seminars and coaching are essential for the development of your employees.

4. Implement job rotation. Think about giving employees the chance to temporarily hold related positions in the company. This method eliminates monotony and strengthens respect for the work of others. **TIP:** Job rotation should be implemented in a structured manner to prevent disruptions in the company.

5. Offer flexible schedules. Telecommuting, personal days and reduced work weeks allow your employees to balance work and personal obligations. **TIP:** Be flexible and understanding.

Source: IN BUSINESS, Business Development of Canada Newsletter

NATIONAL NEWS

An Awareness Workshop on Pakistan Agriculture Technology Transfer Activity (PATTA)

Punjab Agriculture Department and USAID jointly organized a stakeholder awareness workshop on May 28, 2018 under the project of Pakistan Agriculture Technology Transfer Activity (PATTA). This workshop was attended by the representatives of 15 superior companies involved in Agri. technology transfer. Under the said project a “Centre for Mechanization” has been established with the aim to transfer technology to farmers in whole province. During the session, attendees discussed the case for mechanization in the sector and identified several factors to make technology effective, appropriate and affordable for farmers. On this occasion Dr. Ghazanfer Ali Additional Secretary Agriculture (Planning) exposed about the need to meet a growing food demand domestically and globally through technology advancement in horticulture and livestock. Dr. Daney Johnson, Chief of Party of USAID Pakistan Agricultural Technology Transfer Activity Project said, “We aim to bring about an increase of 20



million USD in sales for these agri-technology companies of Pakistan within this 4-year period.

Source: Punjab Agriculture Department, Pakistan

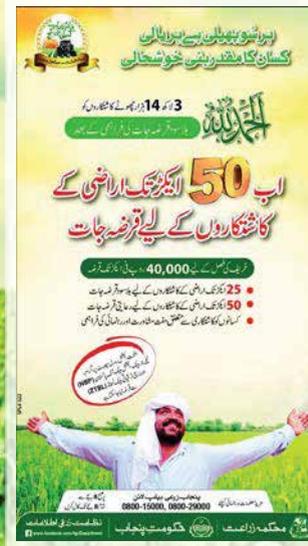
Punjab Govt. Launches Crop Insurance Scheme

A crop insurance scheme (Takaful) has been started by Punjab Government to protect the income of farmers against unfavorable circumstances. In the first phase of the scheme Govt. will insure the crops grown under Kharif season 2018 in areas of Sheikhpura, Sahiwal, Lodhran and Rahimyar Khan. Land owners of up to 5 Acres will get 100% subsidy on Insurance Premium, while 50% subsidy on Insurance Premium will be provided to land owners of 5 Acre to 25 Acres. This scheme will be applicable during its first phase on cotton & Rice fields. In the second phase Insurance (Takaful) will be applicable on more crops

including Sugarcane, Maize, Wheat, Orchards and Vegetables. Under this scheme, compensation will be given in case of natural calamity or low yield. For any type of help farmers can contact on Zarai Help line Numbers 0800-29000 and 0800-15000.

Source: <https://pakobserver.net/punjab-govt-launches-crop-insurance-scheme/>

E-Credit Scheme: Punjab Government to Include Farmers Having Land up to 50 acres



The Punjab government has decided to include farmers having land up to 50 acres in its E-Credit scheme. It may be worth mentioning that the provincial government is providing interest free loans to small farmers and had disbursed loans to 345,000 small farmers under the first phase of this scheme.

Small scale farmers and tenants have benefited from the scheme in a big way as they found sufficient resources for sowing their crops. The spokesman further disclosed that Government of Punjab is disbursing Rs 40,000 per acre for Kharif season crops during this fiscal year. Under this E-Credit scheme farmer can get loan from Akhuwat, National Rural Support Program (NRSP), Telenor Bank, National Bank of Pakistan (NBP) and Zarai Taraqtiati Bank Limited (ZTBL). Under this scheme, Government of Punjab is providing interest free loans to farmers having up to 25 acre agricultural land where as farmers having up to 50 acre land will also get loan on subsidized rates.

Source: Punjab Agriculture Department, Pakistan

Three Days Training Course on Livestock in Peshawar (Barra), KPK

In order to motivate or to give a suitable source of lively hood to women of the province, a three days training course on livestock was arranged by Political Administration of Khyber Agency, Peshawar for 100 women under the Governor’s Special Development Program. In this course administration mainly focused on investigation of diseases, care of newly borne, provision of hygienic environment and nutrition for domestication of cattle. This training will give an opportunity to these women to support their families.

Source: News paper of Veterinary News and Views Faisalabad

ZTBL NEWS

Iftar Dinner Hosted by President ZTBL for Executives of the Bank



Syed Talat Mahmood, President ZTBL hosted an Iftar Dinner at Saddle Room, Islamabad Club to mark the Holy month of Ramadan, following a tradition of hosting Iftar dinners for ZTBL executives. President ZTBL welcomed all the guests and congratulated them on the auspicious occasion of the holy month of Ramadan. He hoped that Ramadan will bring peace and blessings in the country.



Opening of ZTBL's New Deposit taking Branch at Johar Town Lahore

A new ZTBL's Deposit Taking Branch has been established at Johar town Lahore. The main objective to establish new branch is to alleviate financial suffering of local masses ensuring greater outreach and to enhance greater financial inclusion of the masses of the area, which will ultimately improve their living standards.

Promotions in ZTBL

Subsequent to the orders of honorable President ZTBL, the eligible employees of ZTBL were promoted during the month of May and June 2018.



The cherished employees and members of CBA warmly welcomed President ZTBL and extended their gratitude and respect. President ZTBL congratulated the promoted employees and wished them best of luck for their future endeavors.

ZTBL Won the Departmental T20 Women's Cricket Championship 2018

ZTBL women cricket team defeated spirited PCB XI women cricket team by 46 runs in the final match played at National Stadium, Karachi on May 10, 2018. ZTBL



team comprising of top national and international women players, won the toss and decided to bat first and scored 179 runs in 20 overs. Nain Abidi was declared as player of the match for her 85 runs not out. During chasing the mammoth total of 180 runs, PCB XI team could score 133 runs in 20 overs and lost the match by 46 runs.

It is worth mentioning here that this tournament provided a great opportunity for women players especially for the youngsters to exhibit their performance at a higher level and strengthen their existence in the national team after satisfying the selectors with their brilliant performance.

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