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Budget and the Farmer

By Shri O. P. KALRA

Agriculture, under the Constitution, is a State subject. However, it is the Centre which has an overriding influence in determining our agricultural policy. The movement and marketing of agricultural produce, the fixing of prices, both of the commodities and of inputs like fertilizers, seeds, tractors diesel oil, etc. are all decided by the Central Government The Central budget, therefore, which epitomises the policy of the Government for the next fiscal year is of as much importance to farmers as it is to traders and businessmen. In fact it is the proposals concerning the agricultural sector that have given rise to a good deal of controversy in the present budget.

There are, in the main three proposals which are of vital concern to farmers. These are : wealth tax, and increase in levies on pumpset and fertilisers. Of these, the question of wealte tax is a bit ticklish one. It has two aspects : one whether the Central Government has the authority to levy such tax, and secondly, whether the tax is in itself justified. The first aspect might be left to our constitutional pandits. As regards the second aspect, it is clear that the Finance Minister's intention is to bring into his net those businessmen who have taken up agriculture as a part-time business, with dubious motives.

These businessmen are spreading a great adverse psychological impression about our agriculture. Why show them any consideration ? Our real purpose should be how to tax them heavily without causing any harasment to the genuine farmers. Perhaps one way might be that those who show large supplementary agricultural income in addition to non-agricultural incomes should be subjected to thorough scrutinly. There are certain norms of costs and profits in agriculture, which the shrewd recenue officers should not find it difficult to apply in case of any suspicious clients.

Apart from the non-farmers, even those farmers who, by evading the land laws, are showing huge profits should be taxed heavily. It is absurd to compare the agricultural sector with industrial sector in the matter of fixation of ceilings. Land is not like any other capital which can be increased It is to be concentrated in a few hands while millions go without any patch of land. Equitable distribution of land, subject to maximum efficiency, must be our first baisc principle of agricultural policy. And if this policy is not brought about by other legislative measures, let it come through-fiscal measures.

How will the levies on pump sets and fertilisers affect our farmers ? To understand this, we have to describes different categories-farmers. Broadly speaking, our farmers can be divided into four categories. In the first category, at the lowest run of the ladder, come very small farmers. They possess neither capital not any hope. Nobody cares for them, even the cooperatives by-pass them. Whether pump sets are cheap or expensive makes hardly any difference to them. Against this category must be set the category of businessmen farmers who will always make 'profits' no matter what the costs of inputs are.

In the second category come farmers who are on the margin, and by a little help can become surplus farmers. To them the price of fertilisers and pump sets makes huge difference. By fixing a pump set alone, a farmer can increase his cultivated area by 4 acres, either by extenison of land or by double-cropping.

Above all, a pump set is a certain insurance against

failures of rains. Till today our Government has not been able to insulate our countyside against famines. A tiny pump set can work miracles, if only we could help as many farmers as possible to own it. The levy on pump sets will, therefore, achieve exactly the opposite of our national objective.

In the next category come farmers who are having vital farms. They need a lot of capital formation, if they are to increasingly feed our population through scientific farming. These farmers will be seriously affected and might be forced to drop into the lower category of farmers.

Lastly, to the big farmers these levies will affect in a different way. With hard work and intelligent management, some of them are able to maintain a certain standard of living which is not very inferior to that maintained by the professional or managerial classes in non-agricultural sector. It is only a little incentive in farming that has kept this class of talented people in agriculture. The government's intention to reduce agriculture into pauperism is writ large in our budget. This will drain away all talent from agriculture.

Apart from the proposals which directly concern agriculture, the budget as a whole cannot but adversely affect our agriculture sector. Most of the ills that afflict agricultural sector today stem from causes originating in non-agricultural sector. Above all, the policies of over-expanding, deficit financing, infructious investments, taxation of necessities, huge expenditures on adminsitration, undue favours to industry through export incentives etc. will lead to inflation. There will, therefore, be a great pressure from all sides to keep the food prices down. And it is the farmers who will be forced to bear the brunt of the inflationary policies.

There is one aspect of the whole problem which is really disturbing. Before the budget was introduced, one economist after another advised the Finance Minister to levy taxation on agricultural sector. In fact the Government's so called failure to tax the rural sector was being offered as the sole cause of lack of our economic development: How is it that our economists who are so much opposed to taxes on industry profess taxation on rural secion ? The reason is not far to seek.

Today, most of our industries are dependent upon Governmental orders for their very sustenance. Any additional revenue in the hands of government means more orders for these industries. This, however, is a short-sighted policy. Government would soon dissipate these revenues either on unproductive public undertakings or divert it towards administration and our Industries will again be left high and dry. Our economists and industralists must realise that it is only the purchasing power in the hands of our farmers that can sustain our industries.

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Sd/- Dr. D.A. Bholay.
(Signature of Publisher)

Dated : March 1, 1969

Export of Fruits

Dr. S. K. MUKHERJEE

Division of Horticulture, Indian Agricultural Research Inst.

India produces a wide range of fruits and vegetables, tropical and temperate, the annual production being estimated at about 20 million tonnes. Increasing attention has been paid, in recent years, to gear up this industry. The progress achieved so far in the sphere of production and exports, however, has not been adequate. India's share in annual world exports of about $57 million is only $9 million (Rs. 67 million).

India's exports of fresh fruit and vegetables amounting to 109.932 tonnes (worth Rs. 48.8 million) in 1967-68, represent a small proportion of the total production of the country. Besides, onions alone accounted for about 3 per cent (103.362 tonnes valued at Rs. 41.8 million) of the aggregate exports mainly directed towards Southeast Asian markets.

Next in importance are bananas (2,813 tonnes) mangoes (1,672 tonnes), potatoes (347 tonnes) and the rest comprising a wide range of commodities. Out of the total production of processed fruits and vegetables of about 47,180 tonnes. India's exports amounted to 6.189 tonnes (Rs. 18.4 million) in 1967-68.

Export Varieties

Production of suitable varieties constitutes a basic pre-requisite for developing export markets on a continuous basis. For instance, world trades in banana trade show a definite shift in favour of Cavendish varieties which are not currently grown in India.

In oranges, India does not cultivate varieties like Shamouti, Satsuma (for canning purposes) which are presently in demand in international markets. In the case of peaches, the production is small. Varieties of melons such as Honey Dew, Ogen and Charentaias preferred in European markets are not yet commercially produced in the country.

Whitefleshed Spanish variety of onions, not presently cultivated in India is likewise preferred in world markets. Varieties of tomato, such as San Marzano and Roma, suitable for manufacture of peeled whole tomato concentrates produced currently in Italy and USA are not at present grown commercially in India.

It is of vital importance to develop the production of suitable varieties of fruits and vegetables, including strains of established varieties adapted to local conditions, with a view to building up the horticultural industry in the country on modern lines.

Mangoes

India is by far the largest producer of mangoes, accounting for 7.5 million tonnes, of the estimated world output of 9.5 million tonnes. Other producing countries include Pakistan, Thailand, Philippines, South Africa, UAR and Cuba.

A large number of varieties, estimated at over 1,000 are reported to be grown in India, of which 12 are of commercial importance—including Alphonso, Banishan, Langra, Dussehri, Chausa and Neelam.

At present, export is mainly of the variety Alphonso from Maharashtra and Gujarat. The price of Alphonso at Bombay is the highest for any mango in India. This variety has some defect (viz-spongy tissue near the stone) and which cannot be detected from outside, by external appearance. Hence along with Alphonso, we should encourage export of other varieties of mango so that the buyers in other countries may become conversant about the improved varieties of India and get acqainted with the quality of different varieties as in apples.

But definite standards for export have to be set. In addition to mangoes, there is good demand for banana. There is some demand for litchi in Switzerland, Germany etc. Litchis can safely be exported by air if we develop and pursue this matter, as our varieties are quite good. There is also some possibility of exporting guava, which is available in India during the months of December-February when production of local fruits in Europe is almost nil.

We may also export Mandarin orange (Santra) which is available in India in December-February. There is considerable demand for this fruit in European market, especially in West Germany.

There is also good possibility of exporting flowers from India especially Rose Gladlous and Carnation, as during November-February these can be grown out-door. There is good demand for brinjal (long thick and dark purple) and Capsicum (bigger size varieties like California Wonder), in almost every European country. There is also demand for pineapple (variety Queen).

For the purpose of exporting fruits and vegetables it is very necessary to understand thoroughly the right stage at which harvest is to be made, their transport requirements from the orchards before shipment, their storage requirements during transit, their ripening requirements when those reach the foreign market and the shelf life after these are brought out of the ripening rooms. Standards for packing in boxes to withstand handling during the transit and at airports are required to be determined.

Farmer's Day

April 3rd being Farmers' Day. all members and farmers are requested to device programmes suited to the occasion as usual to observe the Day.

Seminars, meetings and Agricultural Exhibitions be organised. Problems hindering Agricultural Producers be discussed and all out efforts be made to enroll Life Members of the Samaj to strengthen the organisation.

American Farm Leaders Suggest Improvements In Indian Agriculture

On completion of the tour of India, the American Farm Leaders have given some suggestions for increasing Agricultural production of the country and to raise the economic standards of the Indian farmers. The suggestions are given below for the benefit of the readers.

—Editor

We think that Indian farmers might increase the efficiency of their livestock population. We suggest the following ideas :

1. Import good breeding stock for experimental purposes.
2. Expand the cross breeding of exotic breeds with locally adapted breeds.
3. Expand the use of artificial insemination.
4. Encourage the keeping of goats to help build the milk supply.
5. Keep more productive chickens for eggs and meat.
6. Sterilize the unproductive cattle in order to reduce their numbers.

We believe it is very important to increas protein content of the diet from every type of source.

1. Grow more soybeans and find out how to process them to suit the Indian diet and palate.
2. We were pleased to see the gram production because it supplies badly needed protein to the human diet.

We are concerned about the depletion of humus in the soil. We feel it would be wise to return some organic manure to the soil.

We suggest continued emphasis on multiple cropping where feasible.

We believe that very simple tools which are inexpensive could cut harvest time and labour cost. The use of a scythe, cradle, long handled hand hoes, single wheel push cultivators, and soto tillers are examples.

India must find capital to expand industry in order to absorb the labour surplus and provide for balanced economic growth.

We enjoyed mango juice and roasted grams. If India could produce more than her country needs of these crops, we'd suggest processing them for export.

We suggest elimination of interplanting of mustard in wheat as observed in northern India. The cost of harvesting mustard while the wheat stands demands insreased labour. A row of wheat in place of mustard would seem more profitable. If mustard is a desirable crop, raise it by itself.

We commend the BKS for their combined programme of promoting improvement in farming techniques and for population control. One problem cannot be solved without solving the other.

We would like to see increased emphasis an flood control, and on water and soil consesvation.

We in the States have found co-operative buying and selling has been beneficial for both consumer and producer. Co-operative buying enables farmers to puschase in volume thereby reducing costs.

We are wondering if there is enough coordination between research stations.

We are pleased to learn that the next five year plan contains proposals for increasing the private sector in the economy. This is a step in the right direction because businessmen are generally better equipped to make business decisions than governments.

We think that the agricultural colleges are doing good work. Continued emphasis is needed on research. We believe the time has come to saparate the extension workers from the political area and make it strictly an educational organization. We feel that Home Science workers in Extension need to be encouraged in their work among the women farm workers.

We have observed the kindling of hope among the farmers. This hope, we believe, is the key to further improvements in Indian agriculture.

Please understand that the above recommendations are not meant to be a criticism in any sense, but suggestions arising from observation and comparisons to experiences in our own country.

The members of the group were in India from 18th January, 1969, under the 'Farmers Exchange Programme', sponsored jointly by Bharat Krishak Samaj (Farmers Forum, India) A—1, Nizamuddin West, New Delhi-13 (India) and Farmers & World Affairs, Inc., 1201, Chestnut Street, Philadelphia, Pennsylvania 19017, U.S.A.

13th National Convention of Farmers

All India Farmers' Convention is scheduled to be held at Bombay from 3rd May to 10th May, 1969.

A seminar on "FARM REVOLUTION" will be held from 3rd May, to 6th May, 1969. Participants are requested to send two copies of their paper by 15th April, 1969.

23rd All India Farmers Council meeting will de held on 7th and 8th May, and 13th National Convention of Farmers on 9th and 10th May, 1969.

Thirteenth National Convention of Farmers

From 3rd MAY to 10th MAY 1969

Dr. D. A. Bholay, Seeretary Bharat Krishak Samaj, has issued a Circular letter to all Life Members in connection with the 13th. National Convention of Farmers which is scheduled to be held at Bombay from 3rd of May 1969. Full text of the letter is being reproduced below for general information of the readers.

—Editor

I have great pleasure to inform you that the Thirteenth National Convention of Farmers of India will be held at Bombay from the 3rd May to 10th May, 1969. It is being arranged to synchronize with the holding of the FIFTH NATIONAL AGRICULTURE FAIR, which has been organized by the Bharat Krishak Samaj at Mahim Creek, Bandra, Bombay-50. This will enable the delegates to the Convention to see the National Agriculture Fair.

VENUE: The 13th National Convention of Farmers will be held on the National Agriculture Fair ground at MAHIM Creek, BANDRA, Bombay.

DELEGATES : Each delegate will be required to pay sum of Rs. 15/- as Delegate Fee. *The fee will be paid by him in the camp office of the* Bharat Krishak Samaj on his arrival at Bombay. Every farmer attending the Convention will, on registration, be considered as a delegate. *No. Travelling Allowance will be paid to any delegate.*

RAILWAY CONCESSIONS : The Railway Concession to attend the National Convention of Farmers is the standard Concession as mentioned is S.No. 26 (2) of Annexure to Rule 401 of I.R.C.A. Coaching Tariff No. 19, Part I, which is availble for reference at all Railway Stations.

The Railway Concession Certificate is enclosed herewith.

To obtain the railway concession the delegate should present the enclosed railway concession certificate signed by the secretary, Bharat Krishak Samaj, to the district or the divisional commercial superintendent of the railway in the area. His office will issue to the delegates a letter of authority on the production of which the Station Master of your Railway Station will allow the purchase of Concession Return Tickets. Therefore, on receipt of the Railway Concession Certificate the Delegate *must take an immediate action in the matter and obtain the said LETTER OF AUTHORITY from the District or the Divisional Commercial Superintendent of Railway concerned in the area* so that last minute inconvenience in obtaining the Railway Concession may be avoided.

Delegates travelling from Punjab, Jammu & Kashmir, Rajasthan, Haryana and Delhi can purchase tickets upto Bombay Central by Western Railway. Delegates from other areas can purchase tickets to Bombay V.T. But all delegates are requested to detrain at the DADAR railway Station (Central Railway or Western Railway), which is the nearest railway station from the place of the Convention.

TRANSPORT : Taxis are available all 24 hours at the Dadar Railway station. Arrangement for Special buses to carry delegates from Dadar to the Camp is being arranged on payment. Camp offices will be opened at the Bombay V.T. Bombay Central and Dadar railway stations, to guide the delegates. Volunteers in batches will be in attendance at all these stations to receive and guide the delegates.

ACCOMODATION : Arrangements for providing accommodation to the delegates are being made. Accommodation can also be booked in hotels on payment if sufficient notice is given. Delegates desirous of residing in hotels are requested to intimate by wire along with advance payment of one day's charges. Telegraphic address is "*Accommodation care Agrofair Bandra Bombay 50*".

Bombay is the second largest metropolis in India and so it would be difficult to arrange accommodation for one and all. Delegates are, therefore, advised in their own interest to keep this in mind.

MEALS : Both vegetarian and nonvegetarian meals will be provided on payment. Delegates can take their meals in hotels also.

WEATHER: The weather during May in Bombay would be warm and there is no need of warm clothing.

Programme of the Convention

Tentative Programme

2-5-1969 to		Registration of delegates. Delegates will be given accommodation only on their Registration and not otherwise.
3-5-1969 to 6-5-1969	10.00 A.M. to 1 P. M. and 3 P.M. to 5 P. M.	Seminar on 'FARM REVOLUTION' Participents in the Seminar are required to send 2 copies of their paper by the 15th April 1969.
7-5-1969 and 8-5-1969	Time as above	23rd meeting of the All India Farmers Council.
9-9-1969 and 10-5-1969	13th National Convention of Farmers on both days. 3-00 P.M. to 5 P.M.	Closing session of the Convention and Prize distribution.

Delegates can visit the National Agriculture Fair on all the days from 5 P,M. onwards.

Productivity Prospects In Developing Countries

Increases in agricultural production in developing countries have hitherto come mainly from extension of the cultivated area. In many of these countries, however, the remaining untilled land is either of poor quality or can be brough-into production only after heavy investment. The needed increased in agricultural prodnction can in many cases be obtained much more cheeply and rapidly by raising yields on existing farms. At the same time, higher productivity per person engaged in agriculture is a principal requirement if incomes and levels of living are to be raised for the farm families who constitute one-half to three-quarters of the total population in most developing countries.

The size of the market ultimately imposes a limit to the degree to which productivity per man can be raised. In most developed countries the average farm worker's productivity is so high that he produces enough to provide for the consumption of agricuitural products of a large number of non-farm workers. In many developing countries, in contrast, the average farm family supplies less than one non-farm family, in addition to providing for its own subsistence. This comparison illustrates not only the technological gap between farmers in developed and developing countries but also the difference in the size of the market available to them. While exports provide an important outlet in many countries, the main market is the domestic one, and this is determined chiefly by the size and income levels of the non-farm population, which are still small in developing countries. While these relationships impose a very real limit on increases in agricultural production and productivity, it is clear from recent trends that in most developing countries this limit has not yet been reached. In general, food production is lagging behind rather than exceeding the growth of domestic demand, and there have been substantial increases in food imports.

Sources of increased productivity

In the developed countries, stages in the historical development of agricultural production have tended to be characterized by differing combinations of inputs: difference in the relative proportions of land, labour, and capital, and in the composition of the capital input. Such changes reflect primarily the changing structure of the economy and the successive advances that have been made in agricultural technology.

It has been estimated that of the total increase in United States farm output between 1940 and 1955, 43 per cent is attributable to increased hectare, 27 per cent to increases in value added by livestock production, 23 per cent to reduction in farm produced power, and 7 percent to changes in the amount of cropland used. While it is not possible to isolate the effect of a single input, it is roughly estimated that increased fertilizer accounted for more than half of the increase in crop production per hectars. Other important causes of increased crop yields per hectare included the use of hybrid maize and other improved plant varieties, irrigation, better soil tillage practices, more timely planting cultivation and harvesting operations, and better weed, insect and disease control.

In developing countries slow evolution, dependent on successive waves of technological advance, can to some extent be by-passed. In fact it is essential that technological improvement should no longer be introduded piecemeal in developing countries but as a "package". For a long time fertilizer use in developing countries tended to be hindered by the fact that, except for a few export crops, the improved seeds available for use in the tropics and sub-tropics were varieties that were primarily reistant to drought or to certain diseases, without a high response to fertilizer application. Now an increased 'fertilizer consciousness" in many developing countries has coincided with the arrival of a mumber of varieties of cereals, adapted to wide areas of the tropics and sub-tropics, which are highly responsive to fertilizers. But even this combination of fertilizers and fertilizer-responsive varieties is not sufficient. To give maximum yields the new varieties require adequate water supplies and careful attention to crop protection measures. A general improvement

Fruitful Efforts

The National Dairy Institute, Karnal has built a stock cf cross breeds which will provide the nucleus for a new breed of Dairy cattle to meet the country's requirements. The Institute has also developed cheese spread and soluble tea.

in husbandry methods is also essential, including seeding at the correct depth, water control, and better weeding, if part of the potential benefits of the purchased inputs is not to be lost. It is also known that the returns from serveal inputs used together exceed the sum of the returns from them when used singly, provided the inputs are used in the right proportion and are properly adpated to the ecological conditions.

Problems of Raising Productivity in Developing Countries.

Ensuring that the necessary package of inputs is available to farmers and that they have both the possibility and the incentive to purchase and use them involves numerous problems in developing countries. Organising the necessary services over wide areas will place a severe strain on the administrative capacity and financial resources of many govenments.

In achieving the technological potential many special problems are imposed by the conditions existing in the developing countries. The influence of land tenure systems is often overriding : not only questions of onwnership. which relate particularly in incentives to use improved, but also the frequently small and scattered nature of holdings, which greatly hampers the introduction of rotations, crop protection measures, and machinery. Other such factors include the poverty and lack of education of farmers, and the orientation of production primarily to the subsistance of the producers and their families rather than to commercial production.

The a bundant agricultural labour supply, which is still increasing in absolute number (even though decreasing as a proportion of the total population) in most developing countries, poses many problems, in particular regarding the use of machinery. It may be pointed out, however, that technological improvements that increase yields tend to increase the labour requirement for such taska as fertilizstion, crop protection, weeding, and harvesting. They may also facilltate (particularly when they make possible multiple cropping) a better distribution of the labour requirement throughout the year, without the marked peaks and troughs that are characteristic at present. It is interesting to note here that, in his monumental study Asian Drama, Professor Myrdal has drawn the hopeful conclusion that improved farm technology in developing countries will not decrease the opportunity to improve labour utilization but on the contrary, will increase it and that the application of a more advanced technology will not have an adverse effect on the demand for labour.

Research services will need to be geared to the new momentum of technological advance that it is hoped to get under way. Extension services will have a crucial role to play in helping farmers to avoid failures from the use of the wrong plant variety, new pests and diseases, and incorrect methods of sowing or fertilization, which might destroy their new confidence in modern technology. Improvements in the general level of farming do not seem likely to permit any slackening of farming in the extension effort but will necessitate an increase.

The massive supplies of chemical fertilizers needed could well prove a serious bottleneck, especially as in most developing countries they mostly have to be imported. Getting the greatly increased supply of these and other purchased inputs to the farmer at the right time will necessitate the expansion and improvement of transport, distribution, and storage facilities, particularly at field level. The organization needed for the efficient production and distribution of improved seed is particalarly poorly developed in most countries.

A rapid increase in the use of purchased inputs will entail greatly expanded credit facilities. Particular attention also needs to be given to price relations and other factors influencing the farmer's incentive to purchase inputs in order to raise his production and sales.

Many of the problems of input supply, credit, marketing and storage can be met by co-operative or other farmer's organisation. The need for effective organisation of these or other appropriate kinds is likely to increase as the use of modern technology becomes more widespread.

Reflection on Crop Improvement

What is new about the so-called high-yielding varieties of cereals is not so much their yields (which hase long been reached or surpassed by many varieties adapted to the temperate zone) as the very large yield increase that their wide ecological adapatability makes possible over extensive areas where hitherto only low-yielding indigenous varieties have been grown. They can transform the production situation in these areas by substantially altering input-output relationships and greatly raising the yield ceiling for the profitable application of fertilizers and other inputs.

Less progress has been made in breeding improved varieties of food crops other than cereals that are suitable for the tropics and subtropics (the main exceptions are certain oilseeds and horticultural crops). Since the high-yielding varietles of cereals make it possible to grow a country's cereal requirements on a much reduced area, land will be freed for such alternative crops as pulses vegetables, and animal foodstuffs.

Fair Inaugurated

Fifth National Agrioulture Fair was inaugurated on 23rd March, 1969 at 5.00 p.m. by Shri Jagjivan Ram, President Bharat Krishah Samaj and Union Minister for Food, Agriculture, Community Development and cooperation.

The function was presided over by Shri P.K. Sawant, Minister for Agriculture, Maharashtra and was larßely attended by farmers, participants business magnetor, high officials, Ministers and foreign dignitories.

Then high yield potential of the new cereal varieties can be achieved only if th ey are used in conjunction with adequate inputs of fertilizer and water, cereful attention to crop protection, and generally high standards of farming. It is necessary to raise levels of fertilizer application well above those in current use even by the better farmers. For most traditional varieties of wheat and rice, fertilizer, respones fall off at about 40 to 50 kilogramms of nitrogen per hectare, mainly because of lodging beyond this point. For the high-yielding varities the response increases more steeply and does not begin to fall off until 100 kilograms or more. In India recommended fertilizer doses for the Mexican wheats are 80 to 120 kilograms N, 40 to 60 kilograms P_2O_3 and about 40 kilograms K_2O per hectare.

Water management and availability are particularly important. For wheat it is recommended in India that the Mexican varieties should receive at least two more irrigations than the local ones. For rice in some areas the problem is an excess rather than a deficiency of water. For example, because of deep flooding the new short-stawed varieties cannot be introduced without improved water control in about a third of the cultivated area of East Pakistan and about 40 percent of the current rice area in Thailand. This will entail flood control, adequate drainage or land shaping and the adoption of proper irrigation methods.

14 Lakh Condoms— a Week

India's first automatic plant for manufacturing condoms has been formally commissioned at Pallavaram near Madras. Sef up in the private sector in collaboration with a British firm, the Plant will turn over 14 lakh condoms a week.

However, it has a bullt in capacity to double the output. The present production would meet about 25 per cent of the country's demand.

Pests and diseases are another problem. Not only do many of the new varieties not have the disease resistance of this hitherto used, but their denser and genetically uniform stands provide a more favourable environment for pests and diseases. In addition to close attention to crop protection measures, it is essential to develop a number of disease-resistant varieties with differing genetical make up for simultaneous use, so as to avoid too great a reliance on a few varieties that may suddenly become susceptible to disease against which chemical control is either not possible or uneconomic. New rust races have merged to attack the new varietes of wheat in Mexico, while the IR-8 variety of rice has proved susceptible to bacterial leaf blight and blast disease.

Better cultivation practices are also needed. For examples, the short straw of the new varieties of wheat is a founction of their short internodes, and is refiected in the shortness of the coleptile or seed leaf. The usual method of ploughing in seed must therefore be replaced by drilling, so as to avoid burying it too deeply. There are also advantages in fertilizer placement. Some type of drill is therefore required for combined seeding and fertilizer application.

An additional problem with some of the new varieties of rice is that they have only a short period of dormancy, and therefore require quick drying at harvest and better storage to escape serious deterioration.

In the case of rice the question of palatability has already proved a problem. In areas with substantial export markets for high quality rice, such as West Pakistan (Basmati rice) and Thailand, there is a natural reluctance to sacrifice quality to yields. New varieties of better cooking and eating quality are, however, already being developed.

Nutritional aspects require careful investigation, in particular the amino acid composition of the grain, which affects protein content and amino acid composition of samples of the new varieties grown in the areas in which it is proposed to introduce them. There is little doubt, however, that on balance the high-yielding varieties of cereals should have a beneficial effect on protein consumption.

Lasting benefits from improved varieties can be expected only if supplies of pure seed can be made continuously available. Othervise, with each successive generation the quality of the stock is reduced in genetic and physical purity and in freedom from seedborne diseases. A major factor is therefore the availability of facilities for seed multiplication, certification, and distribution. Such facilities are highly inadequate in most developing countries.

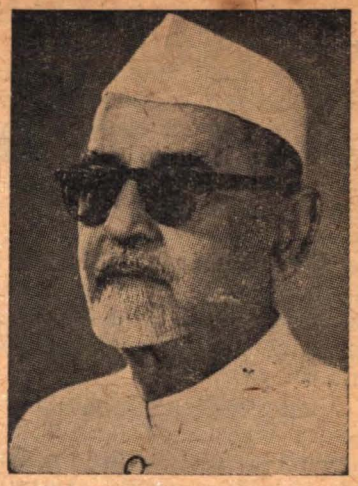
In the Memory of Late Dr. Deshmukh

Death anniversery of Dr. Panjab Rao Deshmukh, founder President of Bharat Krishah Samaj falls on 10th April, 1969.

All Pradesh Krishah Samajs are requested to observe the day in full reverence to the departed soul who dedicated his life for the uplifts of Indian Farmer.

"Family Planning A People's Programme"

Says President



"Our programme is no doubt the biggest programme of its kind ever undertaken in the world. The eyes of the whole world are on us as we proceed with this programme without sacrificing our democratic principles and values. Our success will be the guiding star for other developing nations who are or will face the problem of population explosion as they succeed in their health programmes. This puts an additional responsibility on all of us," said the President, Dr. Zakir Husain in a recent broadcast to the nation.

"Both personnally, as well as the President of India, I attach the highest importance to this problem which has been affecting all of us as individuals and also, therefore, as a nation."

Main Problem

"During the last 21 year, we have made considerable progress and advancement in many socio-economic fields. **We have increased our agricultural production and have indeed achieved a breakthrougb in agriculture. Industrial production has gone up and educational facilities have increased manifold.** With the development of our basic health services and our success in controlling the deaths due to epedemics like cholera, smallpox and malaria, the death rate has been reduced dramatically. Better medical care has also brought a sharp increase in the age average expectation of life at birth from about 27 years in 1947 to over 50 years today. But decline in the birth rate during this period has been much too small."

Population Explosion

"The net effect has been that we are faced with the problem of"population from 344 million in 1947 to more than 528 million today, has neutralised the benefits of the advances in various fields and thereby hampered our efforts for a better living."

"It is, therefore, essential that while continuing with efforts to further reduce the death rate, we must also simultaneously seek to reduce the birth rate considerably."

"But there is no need for despair. I am happy to say that as a result of the efforts made during the last three years, mass awakening has come about in the country about the population problem. Studies carried out in various parts of the country indicate that a majority of our people are now aware of the need for family planning and the norm of a small family of two or three children is finding greater acceptanc every day."

"Today more than eleven percent of our eligible couples—a total of about 9 million couples in the country—are using one or other methods for ensuring a small and happy family."

"Although we have moved fast in this programme during the last three years we have still a long way to go and cannot afford to relax. In order that our development efforts may be really meaningful, *meaningful* in the sense that each one of us can share in good measure the fruits of our labours—**it is essential that every couple in the country should take a decision not to have more than 2 or 3 children and those who already have more than three children should decide not to have any more."**

Peoples' Programme

"For the health of the mother and proper care of the children, it is also necessary that the arrival of 2 or 3 chiidren should be properly spaced. We have to take this message to each one of the 90 million eligible couples, and persuade them not only to accept, but accually adopt the norm of a small family. Only then shall we be able to reap the fruits of our development efforts."

"This is a challenging task. It is a task where govermental effort alone will not ensure success. The success of this programme depends on the decisions and action of millions of individual couples. It has, therefore, to become a people's progromme."

Here a special responsibility falls on those of us who are in the position of influencing thinking of others. What I am suggesting is that the opinion leaders in all walks of life have to actively participate in the programme. By radiating the message of small happy families, they can help the nation tide over a difficult problem.

We are fortunate that in our country this programme has already gained the support and acceptance of all sections of society, irrespective of their religion, place in society or political belief. And this is rightly so, as this is a welfare programme that benefits first of all the individual family.

I urge all my fellow countrymen to make all effort to make this family welfare programme a success.

POPULATION CURBS : IMPERATIVE FOR INDIA

Dr. S. CHANDRASEKHAR

Minister of State in the Ministry of Health, Family Planning, Works Housing & Urban Development.

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What is the magnitude of India's population problem?

India's total population passed the 520 million mark in mid-1968. That is, one out of every seven persons in the world is a citizen of India. With only 2.4 per cent of the world's total land area, India has to support 14 per cent of the world's total population. To this population a baby is born every second and a half, 21 million births a year, a birth-rate of 41 per thousand per year.

Some 8 million persons die every year—a high death rate of 16 per thousand per year. Thus the nation adds 13 million people—Australia's present population—to the existing population every year. **The population is growing at the rate of slightly over 2.5 per cent per year. And at the current rate of increase it may double itself reaching the incredible figure of one billion before the end of this century.**

The major cause of this high rate of growth is not so much the high birth-rate as the increasing success. in terms of Asian standards, with which India's health and medical services have been implemented in the last three Five-Year Plans.

The main reason why the Indian economy continues to be an economy of shortages is the country's excessive population growth. Between mid-1947 when India gained her political freedom and mid-1968 she has added 182.7 million to her total population.

Like other undeveloped countries, India bears witness to the fact that the technology of health and hygiene can be more rapidly transmitted than the technology of food production and economic growth. This means that the population increases rapidly as a result of death control, but the increase in the production of food and other necessities to support this population does not keep pace. Hence the declared objective of the Government of India to reduce the birth-rate from the present 41 per thousand to 25—if not 20 per thousand as expeditiously as possible.

Basic Problem

The basic problem of India is really demographic. Whereas in Western countries the birth-rate declined with industrial growth, the birth-rate in India has to be brought down before industrial development can register any significant progress. All the national gains in the developmental field under the various Five-Year Plans have nullified by the population growth. It is, therefore, inevitable that population growth must be checked to keep pace with meaningful development.

National Movement

India is the only country where family planning has been taken up in all seriousness by the Government at the Federal, State and Municipal levels. Most family planning programmes in the advanced countries of the West started as unofficial agitations, whereas in India it is a national movement backed by the entire official machinery.

Just as we are trying to build a succeessful social democracy without the normal pre-conditions—a literate, socially-aware population and a high level of industrial development—so are we trying to bring about a social revolution without the necessary pre-conditions. For family planning implies the regeneration and awakening of India's womanhood ; it also implies a self-determined responsibility about the size of the family and its also implies a new kind of relationship between husband and wife, and between parents and children.

Many of our social mores could, by and large, be overcome when we have created in our women an awareness to understand this problem. Social scientists are today in a position to alter people's behaviour pattern.

Silent Revolution

The success in the family planning programme can be achieved only when we change the social climate of the country and bring about a silent social revolution.

As the success of the revolution depends upon the determination and will of the women, the biological emancipation of our women must be assured. **No girl in our country should marry before she is 20 or at least 18 and no boy before 25 or at least 21.** The Small Family Norm must become the fashion among the married couple and every child should be a wanted one. No child should go without the basic necessities of civilised life. The biological emancipation of women cannot be complete until family planning is adopted as an integral part of marital life.

It is morally wrong to force a woman to be a burden on unwilling relatives or a society that cannot yet provide social security to all its needy citizens; it is wrong to deny a woman the opportunity to earn whatever the circumstances or her need to earn may be. This means that every girl must acquire some purposeful education, training and skill, according to her ability and aptitude, so that she can earn her living if she has to.

Well Spaced Children

Couples must space and limit the number of children they have in the interests of the health of the mother and children and the welfare of the family as a whole. We must strive to evolve a harmonious balance between human fertility and fertility of the soil, between human wants and available resources, between death control and birth control.

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Our Aim Is Welfare Of People

Smt. INDIRA GANDHI

Prime Minister, Shrimati Indira Gandhi, addressing the sixth All India Family Planning Conference in Chandigarh recently said : **"Simultaneous progress in programmes of intensive agriculture and family planning can give us the chance of conquering rural proverty. The one cannot be thought of as a substitute for the other."**

"Family planning, is truly a people's programme. Its success rests on individual citizens. They have to be approached, persuaded, promoted and helped to practise family planning."

Our Aim

"In fact, the very significance of calling our movement *family planning* and not population control is that our aim is to secure the welfare of our people. And since the family is the most real and enduring of human institutions we naturally have to achieve this welfare in terms of the happiness of children, wives and husbands. **'The women of India, would be found to be very responsive to any programme of action which ensures the health and future of their children."**

Our Achievements

"We have achieved impressive success in terms of numbers since we took up the family planning programme three or four years ago with the urgency and earnestness it deserves. But the success has been limited, as far as I can see, to certain pockets. The most affluent section of our population and perhaps those groups which are driven by the desire to improve their standard of living, namely, the urban middle class and the skilled industrial workers, are the ones most forthcomming to take advantage of the facilities offered by the Goverment."

"Whoever wants to practise family planning should ccrtainly be enabled to get proper advice and assistance. Intensive work is even more necessary in every backward and highly populated areas."

"We should not be unduly influenced by the forecasts, mostly pessimistic, that are often made about our problems and shortcomings by superficial observers. We must proceed with our work according to our best judgement."

"Our own country, so marked by mass poverty, cannot leave it to individual motivation—because such motivation comes only after a certain level of literacy or economic betterment has already been reached."

"It is because we cannot afford to wait untill such consciousness becomes widespread, that we in India require well planned official programmes, which are implemented with determination. We have several advantages. Unlike the countries of the West, there is no organised religious opposition. Also, the educated person, especially the doctor, enjoys high prestige and his or her judgement carries weight."

Biggest Enemy

"The bigest enemy of family planning is the lassitude of our people. Even when they are convinced of the benefits of a course of action they make little attempts to exert themselves. Their enthusiasm is often short-lived. The high lapse ratio is a serious problem. This is the reason for our search for a device that has long-lasting effect."

False Propaganda

A new danger to the family planning movement has been discernable for some time and it shows the link which politics has with all other aspects of life. There is propaganda to the effect that the family planning programme will upset the relative population ratios of the various groups in our country and thus weaken the political power or bargaining position of these groups. This pernicious doctrine may well convince people because of its very fallacy. History shows ample proof of the spread and influence of false beliefs. Workers in the field and all those interested in the family planning programme must strive the utmost to combat this sort of propaganda and allay these imaginary fears."

"The control of one's family gives greater opportunities for education and medical care and is equally important for all groups, whether minority or not."

Why A Spaced Family?

K. N. SRIVASTAVA

Joint Sacretary, Union Department of Family Planning

Family Planning does not merely mean birth control to limit the size of the family. It also implies the regulation of child-birth at properly phased intervals of time in respect of the children born in a small family.

Spacing of children can have far-reaching effects, all to the good, on one's family life, in the social and economic context, and even tone up one's presonality in the strict psychological sense. It has a salutary effect on the mother's health, too.

One direct consequence of spacing is marital harmony. The economic burden and strain on the healh of the wife associated with repeated pregnancies often result in friction and discord between the spouses. This incompatibility between the parents generates a sense of insecurity in the mind of the children. Poverty, deprivation of parental love, constant tensions and quarrels in the family from fertile breeding grounds for delinquency and crime

In a properly spaced family, the burden of child rearing becomes manageable and the parents can provide harmonious surroundings for their children.

If an interval of a few years is maintained beween one child-birth and another, the mother gets sufficient time to take care of each child. **Rearing a new-born baby is almost a full-time job and the mother cannot do justice to the one-year-old if she had a second one at a short interval.**

Frequent Pregnancies Dangerous

Too frequent pregnancies affect the health of both the mother and the subsequent offspring. In a country like India, where the average subsistence Ievel is not enough, the mother seldom gets sufficient nutritious food and hence she takes a long time to recoup her normal health after child-birth.

Frequent pregnancies deplete the physical stamina of the mother. She loses mental poise, balance and tranquility. The irate mother may cure her fate and "let eff steam" on the helpless children. Children of a weak and unhealthy mother will also be below par physically. Ill-health of parents may lead to short temper, bouts of annoyance and irritation over trifles and generally unabalanced behaviour patterns. Negligence, severity and constant scolding may eventually also affect the mental development of the offspring. In a small and properly spaced family, this situation is much less likely to arise.

Unspaced Family-a curse

In a large unspaced family, parental affection tends to be diffused. Children often feel deprived of affection so essential for their emotional growth. This leads to exaggerated forms of sibbling rivalry. The eighteen-month-old may see in the appearance of a new baby a challenge to its monopoly of the mother's affection. This rivalry results in abnormal forms of behaviour on the part of the child, mental tensions leading to emotional attitudes of conflict.

But if the child is already three years old, he would be mature enough to accept his brother or sister with curiosity and affection.

Everyone, however, poor or ignorant, has some expectation about his or her children. Parents want to bestow the maximum amount of care and affection on their offspring. Spacing helps parents to realise this dream, and a balance is achieved between their subjective expectations and actual performence. The residual sense of fulfilment tends to change their outlook towards other aspects of life.

Benefits of Spaced Family

The most important result accruing from spacing is, however, in the dimimution of the fatalistic attitude. Fatalism is a malady that besets all traditional societies. Poverty and suffering, illness and premature death, all these are meekly accepted as decrees of fate, which are beyond human control. **But if man can plan the birth of his children and thus change some aspects of his family life, he will have greater confidence in his ability.** He will look at the future as yet to be made and not totally and irretrievably ordained. And a new and more rational perspective will emerge.

Sociely & Family Planning

All these changes will ultimately be reflected in the social sphere. Society is nothing but a conglomeration of individuals. When men and women become happier and more confident, when children grow up with sound mental and physical health, the face of the society will also change. Spacing will, thus, have a far-reaching effect on national life.

Disadvantages

From the demographic angle, spacing tends to reduce the birth rate as children born later would come of age later, and the subsequent additions to the population are thus shifted farther in time. Reduced birth rate, resulting in reduced growth rate, has a favourable impact on the national economy.

However, too mach spacing may not sometimes be quite conducive to the harmonious relationship in a family. If there is a wide difference in age between the brothers and sisters, a healthy friendship cannot develop. A 16-years-old sister may

(*Contd. on page* 13)

Family Planning : Facts at A Glance

The population of India, as on January, 1, 1969, was estimated to be nearly 530 million. This represents about 14 per cent of the world population, although India has only 2.4 per cent of the world's land area.

The population is increasing at the rate of 2.5 per cent per year, the net annual addition being about 13 million. The annual birth rate is 41 per thousand and the death rate only 16 per thousand.

India's population has more than doubled itself since 1921, when it was 251.4 million. At the present rate of increase, India's population will reach the 1,000 million mark by 1994.

Extensive and effective measures of public health and medical relief have brought down the mortality rate from over 48 per thousand in 1921 to the present 16. The average expectation of life also has risen since inpependence from 29 to 51 years in 1968.

India has made great progress in various fields since independence. There has been 150 per cent increase in industrial production, 300 per cent increase in educational facilities and agricultural production has almost doubled. But the gains of development have been severely eroded by the rising tide of runaway population.

While there has been 64 pet cent increase in national income, the per capita increase has been only 21; the per capita availability of food has increased only marginally from 12.8 ounce to 13.4 ounce.

The State-sponsored massive family planning programme aims at bringing down the birth rate from present 41 to 22 per thousand in the next ten years or earlier.

To achieve this objective, 100 million couples in the productive age group have to be persuaded to plan their families. They also have to be provided adequate services and supplies. Programmes for motivating the people and providing them with the necessary services is now being implemented through a net-work of 1,775 urban family welfare planning centres, 24,191 rural centres and sub-centres, besides 7,031 other rural medical centres doing family planning work.

An absolutely voluntary programme depending for its success on acceptance by individuals, family planning has made sufficient progress during the last four years. So far about 53,17,987 persons have accepted sterilization and 26,90,123 women have accepted I.U.C.D. (loop). This means nearly 11.6 per cent of the total eligible couples have already been protected demographically; it means one million births are being prevented every year.

Several recognized methods of birth control including I.U.C.D., sterilization and conventional contraceptive like Nirodh (condoms), jellies, diaphram, foam tablets are in use. Family planning advice and services are provided free by the State. Nirodh is also supplied at nominal cost through depot holders and through the retail channels of some leading commercial houses at a subsidised price of 15 paise for three pieces.

The family Planning programme employs 1,25,000 workers. For the training of various personnel, there are five central training institutes and 43 regional training centres functioning in the country.

For bringing about a change in outlook on a voluntary basis, all extension and communication media and aids have been pressed into service. Besides radio, television, films, newspapers and printed material, all conceivable local media like puppet shows, *kirtans* and *kathas* are being used to reinforce the message of family planning. Family planning literature is proposed to be mailed directly to 2.5 million opinion leaders in the country.

Why a Spaced Family?

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be just affectionate towards her two-year-old brother; but she will never have that brother-sister tie which is so essential for the harmony in the family.

Economically, too, large intervals in spacing may be inconvenient. If, as a result of spacing, the last child comes to the family at an advanced age of the father, it is likely to be an economic burden to its parents.

Golden Mean

What then, will constitute ideal spacing ?

Lactational amenorhoea is the minimum spacing that nature enforces on woman. The period of natural spacing (without contraception) usually ranges from 12-32 months. But this period is too short. On the other hand, a ten or twelve year gap, too, may prove to be harmful.

The golden mean is about five years. This avoids all the consquences of too frequent child birth; the harmony between children is not disturbed, nor does the youngest child prove to be an economic burden on the parents.

WHEN SHOULD I HAVE MY NEXT CHILD

Doctors say the first 4 or 5 years of life are the most important for the development of the child. For the health of the mother also, it is desirable that she does not have another child for at least 3 or 4 years.

Many simple, safe and effective methods of birth-control are available today. Now you can have a child by choice, not by chance.

Consult your nearest Family Planning Centre today for free advice and services.

How Four Men Faced ——— A Common Problem

Prosperity of one's family does not depend only on one's economic status, nor is it conditioned entirely by one's formal education. Whatever be one's position in society--a scientist working in a research laboratory or a clerk busy with administrative routine, a skilled labourer in a factory or a temporary hand in search of a job—the size of one's family has an important impact.

That was that Danabhai Hira. bhai Bankharia, Shantilal Lavjibhai Heerapora, Harsumanrai Satyawantrai Desai and Parantap Pathak, all from Ahmedabad and from different sections of society, realised. They faced bravely the common problem—the pressure of an over increasing family—and planned their way to prosperity and happiness.

Dreams Come True

An educated man and an idealist Danabhai used to dream about a future when society would be just and there would be no more suffering for poor people.

He had had a rough deal in life which had shattered all his dreams. He had lost his parental home. The factory, where he had worked, had closcd down two years ago, making him *badli* ever since. As a substitute worker, getting wages only on days when employed, Danabhai could carn only about Rs. 100/- a month. Of his eight children, four had died.

One wise act, though, saved him financial ruin. He had got himself vasectomised. Ever since liberated from repeated pregnancies, his wife could work in a plastic factory. With this extra income, Danabhai was able to make ends meet.

He could now provide education to his children.

After vasectomy, he had found that his mental and physical health was unimpaired. His wife's health, too, had greatly improved.

With a healthy and contended family, Danabhai conld now look towards future confidently.

Rumour Was Wrong

Shantilal was illiterate but intelligent, a skilled worker in a textile mill. One day he visited the ATIRA (Ahmedabad Textile Industry Research Association) factory and was impressed by the intricate methods of textile production. He was sure that with some basic education he could easily pick up the sophisticated textile production techniques. Shantilal wanted to offer his children the facilities which has been denied to him. He wented to give them proper education.

But his income was only Rs. 300/- a month and he had already two sons and a daughter. He had to do something to prevent any further addition to the family, if he was to secure his children's future.

The local Family Planning adviser prescribed vasectomy for him as a permanent solution. But his friends warned him that he would become impotant after the operation. Vasectomy, according to them, was another name for castration.

Shantilal, however, walked to the Vedilal Hospital one morning. He was operated within five minutes The operation was hardly painful.

After a month, Shantilal declared to his friends that they were totally wrong. Vasectomy did not have any adverse affect and his married life was as happy as before.

Inspired by this change, Shantilal took up watch-reparing after his mill-hours to increase his income. He would now be able to provide education for his two sons and daughter.

Shantilal's home is now a happy one.

A Turning Point

Recurrent medical bills once drained the resources of Harsumanrai Desai, a clerk. In 1948. his income was Rs. 83 a month. He had also a bank balance of Rs. 7,000 which his grand-father had left him. In twelve years, his monthly income rose to Rs. 900. But during this period, his wife gave birth to four babies and each time it was a crisis for her. Harsumanrai had to spend heavily on medical bills during prenatal and post-natal months. His entire bank balance was gone and after that he incurred debts to meet the family expenses.

Harsumanrai decided to control further additions to the family. In 1960 he got himself vasectomised and that incident proved to be a turning point in his life. His wife no longer needed medical care, He could spend the earnings for the education of his children and for other necessities of life.

Today, Harsumanrai is forty years old. Within the next ten years, all his children will complete their education and he will have another eight years to earn for a comfortable old age. There will be enough savings in the Provident Fund, gratuity and insurance for his daughter's marriage.

A Rational Way

Parantap Pathak had a different problem. Son of a school teacher, he aspired to become an eminent scientist. He was a student of M.Sc. when he married nine years ago. To devote his time and resources for studies, he practised contraception and postponed the arrival of his first child, a daughter, for three years, At this time, for his doctorate, he undertonk research work on cosmic rays. He planned for his research project as well as for the delayed arrival of the second child.

After six years, Parantap has recently completed his research. He would welcome his second baby now. If it happens to be a son, he will want no more. If once again it is a daughter. he will plan for a third child. But three is the limit for him. To him, Family Planning is simply a rational way of livlng.

Around the States

Andhra Pradesh

The Government of India have entered into an agreement with F.A.O. of United Nations for the establishment of model piggery at Gannavaram in Andhra Pradesh with the assistance of Freedom From Hunger Campaign Committee of Ireland.

Under the terms of the plan of operations the Freedom From Hunger Campaign Cammittee, Gorta, Ireland is employing 130 pigs of improved strain of breeding stock, the estimated cost of which is over one lakh rupees.

The pigs will be bred for quick multiplicity of these superior strain pigs for distribution in rural areas to the bonafide breeders in the hinterland of Bacon Factory which has been sponsored by Government of India at Gannavaram in Andhra Pradesh at a total capital outlay of Rs. 50 lakhs.

Cattle Development

Similarly young jersy bulls with high pedigree are being imported under the same programme to augment the milk yield of the indigenous cattle in Andhra Pradesh, The bulls will be stationed in the semen banks for the production of semen which will be diluted and utilized extensively on the breedable cattle population through artificial insemination method in the intensive cattle development areas for covering the milk sheds of the large dairy plants in the region.

Under this scheme 11 bulls and 8 heifers are being imported free of cost to help the farmers in the State.

Krishi Pandits of Madhya Pradesh

Shri Aditya Pratap Singh, a farmer of village Mehgaon in Rewa District has produced 3,424 kilograms of wheat in a one-acre plot. Shri Singh's efforts have been adjudged as the best in the State level wheat competition for 1966-67. He gets the first prize of Rs. 2,000 and the Pandit Ravi Shankar Shukla running shield for six months.

Shri Surendra Vikram Singh Ju of village Mitari, District Panna, who was able to produce 3,224 kilograms of wheat per acre, will get the second prize of Rs. 1,000, Shri Ashgar Ali of Tikamgarh who produced 3,112 kilograms of wheat per acre gets Rs. 500 and a certificate as third prize. In all 14 cultivators participated in the competition, the one who came last in the competition produced 1,080 kilograms per acre.

Shri Shivchandanlal Verma of village Mahoda, district Raipur has been adjudged first in the State level crop competition for paddy for 1967-68. The produce of the competition plot of Shri Verma was 46 quintals, 3 kilograms and 400 grams per acre He gets the first prize of Rs. 2,000, a certificate and Pandit Ravi Shankar Shukla running shield for six months.

Shri Harilal Solanki of village Utai, District Durg, producted 40 quintals and 68 kilograms. He will be awarded second prize of Rs. 1,000 Shri Panchilal Parakh of village Dadi produced 40 quintals and 20 grams of paddy per acre and was adjudged third. He will get Rs. 500 as third prize.

All the prizes will be awarded in the shape of improved agricultural implements. In all 20 agriculturists participatcd in the paddy competition and the lowest entry was with a produce of 14 quintals 82 kilograms and 80 grams per acre.

Electric Pumps for Irrigation

Electric pumps for irrigation purposes numbering 10,235 have so far been installed in nine districts of Indore division. 520 villages of the Division have been electrified under the Rural Electrification Programme.

High Yielding Potato Seeds

The Agricultural Department is introducing this year a new high yielding variety of potato seed in Surguja district. 50 quintals of this seed is being procured by the Department for distribution among the farmers. This is a quick yielding variety and gets ready in three and a half months' time. Its average yield per acre is 150 maunds.

Rajasthan

The Agricultural Refinance Corporation, has selected 50 villages under Tonk Panchayat Samiti, Rajasthan, for farm development as a pilot project.

The Corporation will advance loans to cultivators of the selected villages for development of agriculture. Applications for loans amounting to Rs. 30 lakh have already been received.

The scheme envisage sinking of 400 tubewells, besides deepening the existing wells. Forty diesel and 250 electric pumping sets will also be installed for watering the fields. Electricity lines will be extended to the fields where it has not yet reached. Soil conservation work to check erosion aud levelling of uneven land will also be undertaken.

A preliminary survey to carry out the scheme has already been completed.

Members Please

We are receiving frequent complaints that some members are not receiving Krishak Samachar even though they are Life Members. On enquairy it has been noticed that most of such persons have deposited Rs. 110/- each being the Life Membership fee either with the State or District Krishak Samajs. This is to inform such members that the Central Office will send them Krishak Samachar only after receiving their Life membership subscription at the Central Office and enrolling them as Life Members of the Samaj. Such persons who have deposited money for life membership with the State or District Krishak Samaj are informed that they should pursue the matter with the Dist./State Samaj with whom they have deposited the money to remit their membership subscription to the Samaj office at New Delhi without any delay.

Moulding Small Farmers

R. SUBRAMANIAN

The agricultural breakthough achieved through the High Yielding Varieties Programme has strengthened the hands of our planners. They are now slated for large scale application in the west and dry areas in order to "provide the condition necessary for a sustained increase of about 5 per cent per anuum over the next decades in agricultural production", according to the Fovrth Five Year Plan approach. It continues : "This is a function of "research, education and extension... the essential ingredients for advancement in modern agriculture". The dry areas should have a series of programmes designed towards greater agricultural output through research which has yet to show itself upon them. The Approach asserts : "It is essential that research is supported through adequate funds and personnel to find solution to the problems of such areas."

Social Inputs

The problems of farming are not always one of providing the inputs—better seed, timely credit, fertilizer or of finding better market. Equally important is the social input since it pervades the complex fabric of economic life of the farmer, big or small. On the strength of research in the way of life of the farmer in India and abroad it is possible to identify certain socio-economic factors that influence 'diffusion' of new ways of agriculture, such as the farmer's value system, education, level, social status, beliefs, income, and the like. To be sure, research for action programmes concerning the small farmer should reckon with these elements in the rural social system. Hence there is need for systematic collection of facts through studies on farm families in the rural areas. Reliable information has to be obtained on all these variables before essaying into action for converting as many small farmers as possible to improve farming along the lines set out in the Fourth Plan Five Year Approach. It must be pointed out here that studies in this direction have been developed in our country by the National Institute of Community Development, Hyderbad, the various agricultural Universities and their allied research and extension sections, Agricultural Colleges and other Research Institutions catering for the needs of agricultural development. Such studies, fertilizer extension and a technical programme for agricultural growth is rounded off by their conclusions and actions. Generally the extension worker contributes the need-content programme; the various social science disciplines, the knowledge about the small farmer and his rural social system; the scientists the technicians and the expertise to be put on the farm. On all this grows a programme for action to brdige the gap between 'what is' and 'what should be'. The package is thus delivered to the small farmer, made possible partly by his envolvement. When action takes place on his farm, agriculture grows.

But things are not that easy because the social environment of the small farmer differs from place to place, region, to region through, by and large there are common factors in it. The problems to grapple with are: How does the small farmer in the wet and dry areas see the whole programme of boosting agriculture? Is he ready for an 'educational change'? What is his desire? What is his status quo on his farm vis-a-vis his life in his home and in his society? Such questions largely call for social investigations. The agricultural scientists and social scientists, therefore, have a greater role to play in organising an integrated approach fully—co-ordinating the experience of each expert to understand the problem of the small farmer. As far as the social sciences are concerned, extensive field work through village studies, guides extension programmes in agriculture. For example, the problem of acceptance of new practices has a social mooring behind it; so also land tenure and consolidation of holdings which are linked up with social status, social structure, etc. Consequently, a scheme for agricultural development has to take cognisance of such social forces at work along with the small farmer, very often covertly in a rural situation. The forces become more prominent now-a-days as a result of the general process of change introduced by the Community Development Programme, the village school, the political parties, the cinema and the like. This change is slowly spreading out as a result of changing pattern of occupation in specific areas, increased use of money, greater income changes in the interdependence of castes and the growing political and economic awareness of the rural folks and their desire to 'change'.

Way of thinking

In such circumstances, the social scientists can, through the various social science disciplines and by means of extensive field work, construct a way of thinking for themselves to understand the small farmer and a specific method of study. Conceptualisation, design and approach can be turned on to analyse the social and economic variables that confront him on his

Railway Concession

All the Life members of Bharat Krishak Samat are requested to note that Railway Conventions for attending Conventions at Bombay will be sent at their respective addresses by the 1st week of April. If anyone faiis to get it he may contact Secretary of the State Krishak Samaj of his province for guidance and to obtain concession Certificates.

farm when a 'new' method of culture is accepted or is put across to him for trial; for a farmer combines in himself a bundle of traits, each related to the other, with the result that his behaviour has to be explained in terms of the various points of contact of his area he believes, values and the like. His emancipation from the beaten track is hence a slow process as it involves the process of extension education, which more than analysing the situtation teaching (creation of learning situation for him) evaluating and reviewing previous efforts (though all these together make up the imperatives of extension education) ought to offer him the tool, the opportunity and the conviction to build up in him a new pattern of behaviour that would eventually motivate him to-wards economic and social changes in his life and the community around; equally, it means his intention to boost agricultures.

Research on small Farmers

Intensive social research on the small farmer is the primary requisite before any programme on a large scale is chalked out for him. Knowledge and experience in tackling him can be accumulated on the basis of collection of reliable data through extensive field work. This involves direct survey method and enables an investigator to collect currently known and unavailable facts about him (the small farmer) or to verify known facts and conclusions affecting him; field work by a trained researcher brings forth primary information about small farmer and hence fact finding with the help of field work has become very common. So the first thing that has to be settled here is whether such information can be had from secondary source as well, published and unpublished sources. Any piece of social investigation, therefore, has to be preceded by a search for data in record and an intelligent analysis should be made before planning for a fresh field work progromme involving time and expense. Part of social research consists in finding out how existing reliable data can be used most advantageouly without field work.

The question, then, can be posed: Under what circumstances should field work be undertaken? Instead of direct anwer, some guidelines may be produced below :—

(a) Are adequate, accurate and relevant facts about the problems of the farmer available? If so, are they easy of success?

(b) Are the tools of research so advanced as to suggest a fresh enquiry to another field work programme?

(c) Are there follow-up studies on the subject rendering collected facts antiquated or limited in value?

(d) Is the problem area clearly known? This, before one rushes, to gather data for 'action' purpose.

So, briefly, field work on the small farmer previews the need for newer facts and more facts from a new insight. In our country, field work is sometimes overdone and becomes often handicapped for want of trained field work personnel. The purpose, hence, is not effectively met as the findings become error or bias-ridden; the collected data also are rendered inadequate. One of the modern developments in field studies is the team work of experts beginning to such disciplines as economics, sociology, social psychology, etc. which replaces the individual researcher and helps in arriving at objective results within a short time and at a minimum cost. After all the small farmer is the focus of all these behavioural sciences just as he is with respect to the agricultural scientists.

AROUND THE WORLD

Argentina has reduced export taxes on cotton shipped. Taxes were cut from 12 % to six per cent uncarded and uncombed cotton, including raw cotton, linters and wastes. Export taxes also have been removed from carded and combed cotton, including cotton thread.

* * *

Thailand's cotton crop for 1968/69 has been hit by drought. Output could fall below the 124.000 bales produced last season despite an expansions in area. The Thailand Government has been trying to—increase production in recent years.

* * *

A volcano has done serious harm to to Nicaragua's 1968-69 cotton crop. The crop has been cut by 50,000 to 450,000 because of damage by volcanic ash from the Cerro Negro volcano. The current estimate of production is more than 100,000 bales below the record set in 1964/65.

* * *

Japan will pay its 1968 Quota of. $20 millon to the Special Agricultural Fund of the Asian Development Bank. This makes Japan the first member country of the Bank to do so.

* * *

Agricultral output in Portugal in 1966 is estimated to have been 3 %—4% larger than in 1967. Most of the increase occurred because of bumper cereal crop.

* * *

The Lebanese sugarbeet crop is down. The 1968 production is estimated at 100,000 metric tons, 8,000 under 1967.

How Do Farmers Respond ?

by DOUGLAS SORENSON

Co-operative advertising is usually though of in terms of the manufacturer and the local dealer. But a U. of Wisconsin survey in 1967 also looked at the relationship between the farm equipment dealer and his customers.

What do farmers think of local advertising by their dealer ? How do they use advertising in making buying decisions ? Answers to these questions can be enlightening to many dealers. Some of the advertising opinions and buying practices of farmers can become guidelines to both dealers and manufacturers in developing their advertising programmes.

Profits of the farmer-customer

Information on farmers came from a questionaire mailed to 700 farmers in 11 Midwest and East Central states. The questionanire asked for specific information about reading of farm magazines and newspapers, buying habits for farm equipment, and opinions and attitudes about advertising. It asked several specific questions that could be compared with answers in separate questionaires sent to dealers and manufacturers.

Response to the farmer survey was 41 per cent—better than the average level of return on most mail surveys. The farmers lived in the same general states as the dealers and manufacturers that were surveyed, but they were selected from separate lists to avoid any relationship with any specific dealer.

The typical farmer who replied to the survey can be characterized as one living in the central U.S. on a livestock farm with 300 or more acres of cropland. He is twice as likely to be a dairy farmer than a beef or hog farmer. He owns his farm but rents some extra acres. He owns 3 or 4 tractors, and he had bought a new car, truck or implement in the year preceding the 1967 survey.

Farmers agree with dealers on some marketing points, differ on others

Comparison of questionnaires of dealers and farmers showed that marketing strategy sometimes missed the customer target. Also it showed that what the dealer thinks is an attractive advertising appeal may not seem attractive to the potential customer.

One point of agreement was on the size of dealer's market territory. About three-fourths of the farmers said they live within 20 miles of their dealer. Only one in 16 lives 30 miles away. Dealers figured most of their customers to be with in the 20-miles radius but estimated perhaps one in five to live more than 30 miles away.

Tied in with the greater distance farmers travel to shop is a decline in traditional loyalty to one local dealer. Over half (56 per cent) of the farmers said they "shop around to get the deal." "Deal" generally meant service; many of them offered the explanation that service made the difference in choosing a farm equipment dealer. Said one farmer, "When I buy machinery, I buy service." And another said, "The key to successful machinery sales lies, not in brand, but in the dealers that sell and service them." Still another said, "The best equipment without service is no good."

In another question farmers rated the reputation of the dealer, manufacturer or brand as the most important to making a buying decision, price ranked farther down the list, and brand loyalty below price. The table below gives the rank of various factors in helping to make a buying decision :

Factors influencing farmer buying decisions

Factors	*Rank of Importance*
Reputation of brand, dealer or manufacturer	1
Talks with dealer	2
Price	3
Brand of loyalty	4
Friends	5
Past experience	6
Local dealer advertising	7

Sources of information for buying new equipment

Dealers and customers see almost eye to eye on the place to give the customer information on a product. Both ranked personal contacts as the source of most information about a new product. Half of the farmers listed friends, followed by national advertising and local advertising. Dealers, however, ranked local advertising ahead of national advertising. The complete ranking is as follows :

Customer sources of information

Source	*Rank of Importance By dealers*	*By customers*
Personal contact	1	1
Local advertising	2	3
National adverti ing	3	2
Dealer demonstra- tions	4	5
Field days and fairs	5	6
Others	6	4

In the customer survey, the researches found out what print media are available to farmers for advertising information. They found that almost 9 out of 10 farms receive a daily newspaper, national farm magazine, local farm paper or specialised farm magazine. Three out of four farms receive a local weekly newspaper.

So it would appear that these media are useful to reach the farmer with the advertising message. But the survey went a step farther and asked which publications were read most thoroughly and which were considered most helpful. Here are those responses :

Publications read most and considered most helpful by farmers

Publication	*Read Most*	*Ranking Most Helpful*
Daily newspaper	1	4
National farm magazine	2	1
State farm paper	3	3
Livestock magazine	4	2
Weekly newspaper	5	5

The most striking information here is the high rank of national magazines and low rank of weekly newspapers as a source of helpful information.

Finally, the researchers tried to put the customer in the manufacturer's place to see what advice he could give for advertising. They asked the question, "If you were an equipment manufacturer, what publication would you use to reach a farmer ?" More than half of the farmers put national advertising first, and more than a third ranked the state farm papers high.

Manufacturers were asked the same kind of question in their separate questionanire, and they also gave national and state advertlsing as their first and second choices. The ranking of the media by customers and manufacturers :

Medium	*Manu- facturer' rank*	*Far- mers' rank*
National farm magazine	1	1
State farm magazine	2	2
Direct mail	3	8
Radio	4	7
Weekly newspaper	5	4
Daily newspaper	6	3
Television	7	6
Fairs, demonstration etc.	8	5

There is wide disagreement here in the use of direct mail, which farmers apparently don't like, and the use of fairs and shows, which have never been popularly supported as co-operative advertising by the manufacturer. The high interest in fairs shows the preference of farmers for personal contacts.

Some recommendations for dealer-manufacturer Co-operative advertising

Neither dealers nor manufactnrers can ignore the practices and opinions that came out of the farmers survey. Where there is disagreement, the customer is probably right, and the dealer and manufacturers should heed the customers' suggestions.

The high preference of farmers for national magazine suggests that manufacturers should advertise heavily at this level, concentrating image-building or institutional advertising. Advertising at the local level should promote the dealers reputation through testimonials and should stress programmes to increase the understanding of farmers.

The weak influence of weekly and daily newspapers on buying decisions suggests a review of the advertising budget at the local level. Fairs, field days and demonstrations showed a surprisingly strong influence on buying decisions by the farmers in this survey. In view of this, manufacturers and dealers might well pool their local advertising money to support more of these personal contacts.

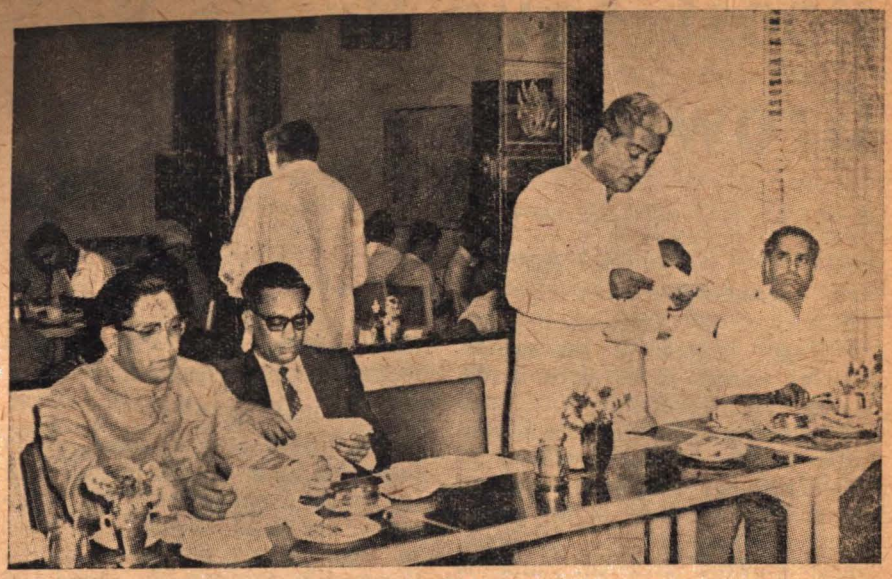
Training Offered in Rice Production

A paddy oriented two-week course was given at the University of Hawaii Tropical Rice Production centre, takes the trainee through all the necessary operations in raising a crop of rice. He uses water buffalo as well as hand tractors. He is exposed to new practices in pest and weed control. New fertilizer and cultural methods are also part of the training. The ultimate goal of the program is to put recent scientific information into the hands of the rice farmers of Asia. This can be done most effectively by well-trained charge agents.

The training centre is open on a year-round basis with two week cycles having started in March, 1968. The fee for the course is $465 and covers tuition, room and board.

Further information, can be had from Dr. John N. Stalker, Director of the University's Office of International Programmes and Dr. C. Peairs Wilson. Dean of the Collage of Tropical Agriculture, who serve as Co-Directors of the Centre.

Shri Anvikar Meets The Press



Shri M.S. Anvikar, Executive Chairman of the Fifth National Agricultural Fair, organised by Bharat Krishak Samaj, while addressing a Press Conference, held to announce the Fair and inform the general public about its progress, informed the news men about the activities of the Bharat Krishak Samaj and the noble objectives of the Fair.

Answering a volley of questions Shri S.N. Rao, the Director of the Fair told the Press representatives that the total expenditure of the Fair could be approximately one crore inclusive of Rs. 16 lakhs spent by the Organisers. Asked whether farmers were going to be brought to the Fair, Shri Rao informed the Fourth Estate about the efforts of the organisers for the visit of farmers from all over the country. The State Government had already made arrangements and farmers from as far as Nagaland would be visiting the fair. They were also informed that one way rail concession was being extended by the Railway Ministry to the farmers who are Life Members of the Samaj and desirous of visiting the Fair. Such farmers would be brought from the district and taluka level. The Organisers hope to have about 120 to 150 participants, who would display items, apart from those connected with agriculture, like electrically operated machinery, etc. Answering a question, Shri Rao said that besides the Indo-American Chamber of Commerce and the U.S.I.S, the other foreign participants are the Federal Republic of Germany, Israel and the U.S.S.R. The Press was also informed about the Seminars on various topics, including "Farm Revolution" wherein experts from all over the world would be participating, that are going to be held during the Fair. The sponsors are organising the Fair on a 'no profit, no loss' basis; but due to the fact that the Fair is being run on efficient lines, the Organisers hope to make a nominal profit. Replying a question why the Fair is not organised in a village or district, Shri Rao said that Bombay, being a large city and also a port, offered greater facilities than what would have been got in a district or village. It was mainly because of this reason that Bombay was chosen as the venue of this Fair.

Transplanting Hbyrid Bajra

Offers Benefits

Transplanting hybrid bajra instead of sowing it direct has its advantages. The seed requirements are cut to half, thus saving farmers the cost on seed.

The greater advantage of this method would be that it would enable farmers to sow the crop in time, even where a summer crop precedes hybrid barja. Normally, sowing is delayed as no time is left after the harvest of the previous crop for making the field ready in time.

Uniform germination, even where heavy rains occur after sowing, and a better stand and yield of crop are other advantages in talking to transplanting bajra.

Boost Your Profit By Growing Ginger

S. SAL
Horticulturist (Vegetable Breeder)
Govt. Vegetable Research Station, Kalianpur (Kanpur)

Ginger is one of the earliest oriental spieces to be given in the Western Hemisphere. It is reported to be a native of South Eastern Asia, India is the largest producer of commercial dry ginger in the world and nearly 4,000 tons of dry ginger is exported annually. The main ginger growing area in India is Kerala State and export trade in this commodity is, therefore, confined to Kerala ginger. It is also cultivated to a small scale in the States of Assam, Andhra Pradesh, Himachal Pradesh and West Bengal. In Uttar Pradesh there are certain pockets of land such as Burwasagar (Jhansi) and Tarai area in northern U.P. where the cultivation of this spice can be extended.

Ginger has a penstrating flavour and is largely used for the preparation of preserves and confectionary, such as candy, jelly, crystal ginger, ginger toffee and ginger biscuits. It is an important ingredient in Ayurvedic medicines. Dry ginger contains 1 to 3% volatile oil and 50% starch. As a spice it is extensively used in the preparation of different types of condiments and in cooking vegetables.

Advantages

The advantage of growing this spice is that its extensive fibrous root has a binding effect on the soil and thus prevents soil erosion. Being a shade loving crop it does well as an inter crop in orchards. The following points can help the ginger growers to make it a good remunerative crop.

Climate

Ginger requires hot and moist climate with 150 to 200 cm. rainfall during the growing period. It can be grown on a wide range of elevations ranging from 450 to 1800 metres above the sea level.

Soil and its Preparation

It thrives best in loam, sandy loam, red loam or laterite soils having proper drainage and humus content. The land should be brought to fine tilth by ploughing it thoroughly five to six times and followed by planking. Where ginger is raised in the fields vacated by wheat and other rabi crops, hot weather cultivation is essential, as it reduces the chances of ginger soft rot, 150 to 200 quintals of F.Y.M. or compost per hectare should be well mixed in the soil at the time of ploughing.

Sowing Time

The planting of ginger is done from April to July. It is sown early at higher elevations and late at lower altitudes.

Method of Sowing and seed rate

Sound, uninjured and disease free rhizomes are selected at the harvesting time. These seed rhizomes are stored in under ground pits. The pits are kept 1.5 to 3.0 metres deep, depending upon the quantity of the seed material to be stored. The mouth of the plt is plastered with cow-dung leaving a hole in the centre for aeration.

The sprouted rhizomes are taken out of the pit at the time of sowing. To prevent injury to the sprouted eyes the bamboo baskets are used for carrying rhizomes to the fields. In clay loam soils ginger is planted in raised beds, 10 cm. above the ground, but in sandy loam soils flat sowing would be better. The bits of rhizomes having two living buds are planted 4-5 cm. apart. The rhizomes are properly covered with soil. Soon after planting, the whole field is covered with thick layer of dry grass leaves, straw, etc. to save the tender sprouts from hot sun and desicating winds. Fifteen to twenty quintals of rhezomes are required to plant a hectare of land depending upon the size of the bits used.

Varieties

The varieties are distinguished mostly by size, colour and fibre content of the rhizomes. Indian varieties generally have higher fibre content. Two exotic types, *viz.*, Rio-de-Janerio and China, which are now under cultivation iu Kerala have less fibre content and have high yield potential.

Manuring

Ginger is a gross feeder. An application of 100-150 quintals F.Y.M. or compost and 1.5 to 2 quintals of superphosphate per hectare in two instalments, first when the plants become 25 cm. tall and second one month after the first application is essential for making economic cultivation.

Irrigation

April May planted crop needs frequent irrigations before the onset of rainfall. During the rainy season, if long dry spells occur irrigation are essential. After rainy season 2-3 irrigation with the interval of 15 days are made.

Hoeing and Weeding

Since the field is kept covered with dry grass, leaves etc., during the early stage of the plants growth,

Sambalpur Tops

Though non-Irrigated and non I.A.D.P. (Intensive Agriculture District Programme). Govindpur block under Sambalpur District has achieved the distinction of being first in Potato and Second in wheat crops in the State Flower and Vegetable show organised by Orissa Krishak Samaj.

In Potato Crop Competition at Block Level highest yield of 190.49 quintals was recorded in the field of Shri Chaitanya Patel followed by 174.53 quintals by another cultivator Shri Nirankar Nayak of Bamphei Village.

weeds do not come up. If the weed population is high, weeding is essential. Two earthings—first, when the plants attain 25 cm. height and the second, when plants start setting rhizomes—are essential for the better development of the rhizomes. The newly formed rhizomes should not be allowed to sprout and such sprouts should be clipped off as soon as they emerge from the soil.

Digging

The crop becomes ready for harvest in about eight months after planting. Thus the main crop is harvested in mid-November when the leaves start withering. Though the crop can be harvested even one month earlier for getting better price, the rhizomes cannot be stored for longer duration.

Diseases and insect-pest and their control measures :

Soft Rot

This is a most destructive fungal disease occuring both in the field and storage. It damages the crop upto 10 to 50%. The affected plants start rotting at the base of their aerial shoots. Later on, the leaves start wilting and drying. The following control measures should be adopted.

(*a*) Selection of disease free rhizomes.

(*b*) Dripping of seed material in 0.25% cereson solution for 30 minutes or in 0.1% mercuric chloride for 1.5 hours before planting.

(*e*) Burning diseased leaves and rhizomes.

(*d*) Sowing the crop in rotation.

(*e*) Drenching of seed bed with 0.25% cereson solution at the rate of 625 gallons per hectare.

2. *Thread blight*

In the infested plants mid rib of the leaves and tender shoots show water soaked lesions. Later on, the affected leaves turn yellow and plant dies. Spraying of Bordeaux mixture (5:5:50) can reduce the incidence of infection,

3. *Insect pests*

This crop is not a victim of any serious insect pests, but sometimes the white grubs appear to feed on developing rhezomes. Dusting of 10% B.H.C, followed by hoeing checks the attack of this insect.

yield

The yield of fresh ginger varies from 75 to 100 quintals per hectare. The cured ginger (South) is 20 per cent of the green produce.

Curing

The dry ginger rhizome. known as Sonth in Hindi is used as spice. This Sonth is prepared by drying the green rhizomes. The fresh rhizomes stored in the pits just after harvesting are taken out during February for curing. The following three methods are commonly used for curing ginger.

1. In this method the rhixomes are put in the bamboo baskets. These baskets are daily put in the sun for few hours till the covering of rhizomes is completely removed and they become completely dry. The product produced by this method is of poor quality and the colour of the sets is dull and quite unattractive.

(2) This method consists of soaking of green ginger in water for a day before drying and then followed by soaking in lime water. This material is put in the sun and is frequently turned for uniform drying. The dry sets are rubbed to remove the scaly leaves (known as skin). The sets dried by this method are smooth and white.

(3) The improved method of ginger curing consist of soaking of the material in lime water and putting it in bamboo trays or flat baskets. These baskets are kept in a specially constructed chamber for funigation with sulphur dioxide for 12 hours. The Sonth produced by this technique is white, attractive looking aud better in keeping quality. It fetches better price in the market.

Economics of Cultivation

	Cost		Rs./Hec
1.	Field preparation	(*a*) one heavy ploughing	40.00
		(*b*) Four light ploughings	120.00
2.	Manures and fertilizers	(*a*) 200 Q F.Y.M. @ Rs. 1.25/Q	250.00
		(*b*) 2 Q super phosphate @ Rs. 39.95/Q	79.90
		(*c*) 3 Q Ammonia sulphate @ Rs. 50.30/Q	150.90
3.	Manuring 25 men @ Rs. 2/- man/day		50.00
4.	Sowing 50 men @ Rs. 2/- man/day		60.00
5.	Seed (Rhizomes) 29 Q @ Rs. 1.50/Q		3000.00
6.	Two weedings and earthings 60 men @ Rs. 2/- man/day		120.02
7.	Eight irrigations by electric tube well @ Rs. 33/- irrigation		264.00
8.	Seed treatment with 0.25% ceresan 1 man @ Rs. 2/- man/day		35.00
9.	Drenching of seed bed with ceresan (0.25%) @ 625 gallons/hectare *2 men @ 2/man/day		99.20
10.	Two sprayings of Bordeaux mixture (5:5:50) against thread blight * 6 men @ Rs. 2/man/day		86.00
11.	Digging 40 men @ Rs. 2/- man/day		80.00
12,	Marketing		200.00
13.	Land rent for 8 months		16.67
14.	Interest on working capital @ 12% for eight months		372.13
		Total Cost	5023.80
	Income-value of 100 Quintals of rhizomes @ Rs. 100/Q		10000.00
		Net Profit	4976.20

News From State Samajs

Memorandum to Prime Minister

Shri Narendranath Chatterjee, President, Bharat Krishak Samaj, Burdwan District in a letter to Prime Minister and Deputy Prime Minister regarding increase in the prices of fertilizers says :

"We understand that the price of Chemical fertilizers has gone high owing to the new taxation policy of the Central Government. We do not know whether the Government have taken into consideration the question that this rise in prices of fertilizers will put the agriculturists into hardship and the result will be that the use of fertilizers will decrease with the consequential decrease in the production. While "grow more food" is our campaign to fight out shortage of food grains, this decision of the Government runs counter to the general intelligibility of the public. This institution of the farmers of the district of the State of West Bengal and pioneer in the use of chemical fertilizers, does vehemently protest against this unwise decision of the Government, is as much as all the agricultural programmes undertaken to make our country self-sufficient in food, will receive a serious set-back and the cultivators will be made averse to the use of fertilizers ultimately defeating the purpose of the Public Exchequer attempting to increase its revenues.

We would, under the above circumstances, request you, on behalf of the agriculturists and farmers of a most important area of the State of West Bengal to review the policy of the Government very early, before the matter worsens and goes beyond remedying."

Mysore Samaj—Executive Meets

The Executive Committee of Mysore Pradesh Krishak Samaj met under the Chairmanship of Shri B. Rachaiah, Minister of Agriculture and President of the Samaj to consider the progress of working of Samaj on all fronts in the State.

The Executive Committee expressed its satisfaction over the working of Farmers Service Cell organised by Tumkur District Farmers Forum which has included advisory service also in its programme.

The Executive Committee gave its consent for publishing Agricultural Hand Book cum Diary for 1969 and expressed its satisfaction over the working of Farmers Forum printing press.

Cooperative Cold Storage

The Farmers' Forum, Cooperative Cold storage has made good progress. The building is almost completed and the machinaries are expected very soon.

Informative Leaf-lets

Mysore Pradesh Krishak Samaj has published a Leaf-let on Irrigation in black soil. Similar other leaflets on cotton border strip irrigation, grape cultivation and mulbarry cultivation are expect very soon.

District Farmers' Conventions

The Orissa Krishak Samaj organised Kalahandi District Farmers' Convention at Bhawanipatna on 21st and 22nd January, 1969; the puri District Gonvention at Nimapara on 3rd February, 1969; the Bolangir District Convention on 9th and 10th February, 1969, at Sangomunda, and Ganjum District Convention at Rangeilunda Gram Sevak Talim Kendra on 16th, 17th and 18th February, 1969. At all these conventions there were District level Agricultural exhibitions and prizes were distributed to the best growers.

Among others the Conventions were attended by the President Orissa Krishak Samaj the Minister of Agriculture Shri R. B. Misra; Vice-President of the Samaj, and the Deputy Minister of Agriculture Shri B. Tripathy; Secretary, Agriculture Department Shri B. C. Tripathy I.A.S., the Director of Agriculture and Food Production Dr. U.N. Mahanty and Asstt. State Organiser Shri M.C. Rautaroy.

Ia Bolangir District Convention at Bangomunda the Chief Minister Orissa Shri R.N. Singh Deo Distributed the prizes.

In all these Conventions there were cinema shows on high yielding variety of crops *i,e.* "Annapurna Talchung" rice etc.

Samaj decides to award members

It has been decided to award the following prizes, certificates etc. for enrolement of life members of Bharat Krishak Samaj and other outstanding organisationai work for the Samaj :—

1. (a) *Rolling Shield and Rs. 500/-* (cash) to the State Krishak Samaj for enrolling the highest number of life members.

   (b) *Silver Cup and Rs. 500/- cash* to the State Krishak Samaj for enrolling the Second highest number of life members.

   (c) *Cash reward of Rs. 500/-* to the State Krishak Samaj for enrolling the third highest number of life members.

2. *Cash award of Rs. 500/-* to the District enrolling 50 and more members.

3. *Gold Medal* to the individual enrolling 100 or more life members.

4. *Silver Medal* to the individual enrolling 50 and more life members.

5. (a) *Certificates* to individuals enrolling 25 or more life members.

   (b) *Certificates of apyreciation* for outstanding organicational and other works.

For the award of prices in respect of all the above items the period fixed is from 1-1-1967 to 31st March, 1969.

Regd. No. 1092

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By

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Union Minister for Food Agriculture, Community Development & Cooperation

Under the Presidentship of

SHRI P.K. SAVANT

Minister for Agriculture, Maharashtra

Foreign Stalls Dealing with Agro Products a Speciality

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