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India's Forest Wealth

Dr Deshmukh pleads for effective development measures

DR PANJABRAO DESHMUKH, Union Minister for Agriculture, has appealed to all citizens and especially to those in-charge of the administration, 'to give anxious thought to our steadily depleting forest resources' and to do everything in their power to put the matter above purely local, parochial and temporary considerations and expediencies. This is a matter, he says, in which national, economic, cultural and historical considerations ought to prevail.

The Minister in his appeal in connection with the 12th Vanamahotsava, celebrated from July 1 to 7, says that maintenance of adequate cover on land, the control of soil erosion which such cover effects, the perennial and regulated streamflows which it ensures, the agricultural prosperity which it makes possible and the stimulus which raw materials from forests give to industrial development are matters of vital importance to the well-being and prosperity of a nation. The want of them strikes at the very root of national progress and cultural evolution.

NOT A RITUAL

Dr. Deshmukh has stressed that the tree planting ceremony is not a mere ritual to be celebrated with pomp and promptly forgotten thereafter. It ought to be at all costs an activity that deserves utmost and earnest attention. Referring to decisions taken earlier that the total area of the forests in the country should be increased from one fifth of the land surface to one third, the Minister says: "The sorry fact of the matter, I am afraid, is that forests have really and actually dwindled in extent since the declaration of the National Forest Policy in 1951, whatever good work done in the meanwhile having been more than outbalanced by the areas we lost or spoliation that took place. It is a great pity, that it should be so when for want of wood the match industry is facing a crisis, the plywood industry is in great difficulty, and the paper industry, which is expanding rapidly, may soon be in trouble."

SHORTAGE OF FUEL WOOD

The shortage of fuel wood in the country Dr. Deshmukh says, is

WASHINGTON, D. C. The Indian farm leaders are seen in conference with the U. S. Secretary of Agriculture Orville Freeman, who recently invited them into his office. Seated left to right are: Rayanagoud L. Patil; M. S. Anvikar; J. N. Bhardwaj; Bishan Mansingh; B. S. Patil; V. G. Sukumaran; Mrs. K. D. Sharma; Mrs. Rangachari Rajalakshmi; K. D. Sharma; Secretary Freeman; and J. S. Mann. Seated with backs to camera are (left) V. B. Patil and David Ruesink, Project Director for Farmers and World Affairs, Inc.

'appalling' as a result of which nearly 80 million tons of cowdung (equivalent to 60 million tons of fuel wood) is being burnt annually as fuel instead of being utilised as manure. To meet this increasing demand and to relieve pressure on the consumption of cowdung, it is proposed to raise fuel and fodder plantations to the tune of 12.5 lakh acres, during the Third Five Year Plan under the "Farm Forestry" scheme. This scheme envisages raising plantations of quick-growing species on village commons, field boundaries and waste lands, throughout the country. He adds, "I need not remind you that such large scale plantations can only be possible if the fullest cooperation of the people is forthcoming. It is, therefore, hoped that the requisite effort and initiative will not be lacking to make this allied activity a success".

ASSURANCE WANTED

Dr. Deshmukh adds, "On the occasion of this Vanamahotsava, I would like to be assured by the State Governments and all other organisations that take part in this national festival that while they are prepared to organise the Vanamahotsava with enthusiasm and drive, they are also actively engaged in offering protection to existing forests, in preventing further encroachments into their precincts, in managing them on scientific lines, in expanding them wherever possible, and in improving what is one of our most valuable natural resources.

* * *

RECORD FISH PRODUCTION IN 1960

Fish production in India during 1960 has been the highest ever recorded. Seafish landings were about 8.8 lakh metric tons. Marketable surplus of inland catches, including estuarine tracts, was about 2.8 lakh tons. These together with subsistence fishing in inland water and small ponds have placed the total fish yield in India well over 14 lakh tons, which was the target for the final year of the Second Plan period.

The highlights of the 1960 fishery were the excellent yields of sardines and mackerel. Mechanisation of fishing craft and introduction of synthetic fibres like nylon are the chief avenues of increased marine production.

Freedom From Hunger Campaign

Bhopal : The State Government have constituted a State Campaign Committee under the chairmanship of State Chief Minister, Dr, K. N. Katju as part of the "Freedom From Hunger Campaign" launched all over the world in accordance with a decision taken at the 10th session of conference of the Food & Agriculture of the United Nations and endorsed by the Government of India.

The Committee consists of the Minister for Food, Minister for Irrigation, Minister for Co-operation, Deputy Minister for Agriculture; Shri Shivanand, M. L. A., State Convenor of Bharat Sewak Samaj; Shri M. C. Bondriya, Secretary M.P. Krishak Samaj; Shri D. N. Sharma, M.L.A.; Shri K. P. Panda, M. L. A.; Shri Umrao Singh, M. L. A., Shri Nanak Bhai Agarwal, M. P., Shrimati Jaya Behen, Shri Lalarom Bajpai, Shri Ram Singh Vashista, the Chief Engineer (Irrigation), Registrar Co-operative Societies Secretary Planning and Development Deptt., Secretary Agriculture and Co-operation Deptt. Secretary, Food Deptt. and Secretary, Public Works Deptt. Director of Agriculture will be the member-Secretary of the State Committee.

The field of activities of the State Campaign Committee will cover wide range of informational and Educational work, research programme and formulation of action, programme covering both production, distribution and fund raising.

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VAN-MAHOTSAVA CELEBRATIONS IN MADHYA PRADESH

The twelfth Van-Mahotsava will be celebrated througout Madhya Pradesh from July 15, 1961. This year, an all out effort would be made to arouse public consciousness about the usefulness of trees and forests in the growth of national economy. Special efforts would be made for protection, watering and maintenance of all planted stock particularly of those which are planted on public and municipal lands.

The special feature of this year's Van-Mahotsava will be the plantation of fruit, timber, fuel and fodder reserves. Co-operation of all available agencies will be sought for making the celebrations effective. People will be encouraged to recognise the need of farm forestry.

It may be mentioned that the Third Plan of the State includes a scheme for Farm Forestry under which village forestry will be raised on 6,000 acres in 100 Development Blocks of the State. In the selected blocks, the farm forestry scheme will be inaugurated in a suitable manner during the Van-Mahotsava celebrations.

KAIRON'S CALL TO FARMERS

JULLUNDUR July 2.—Addressing the Farmers' Forum, Jullundur Division here yesterday Shri Kairon urged members to devote greater attention to increasing agricultural production.

The Chief Minister asked farmers to store their grain in the warehouses provided by the State and sell the commodity when prices were high instead of taking it to the mandis at harvest time, thus helping the intermediary.

CHAKUNDA PLANTS

Make Good Silage

Chakunda (Cassia tora) plants, which in fresh state are avoided by cattle, make good fodder if silaged. Ensiling also helps solve the fodder problem in summer.

At present these plants are going a waste on roadsides, waste lands, river banks, tank bunds and canal borders because of their strong repulsive smell. They come up during the monsoon, start flowering in mid July, fruit in September-October and then dry up.

They have to be ensilaged before flowering. Silage prepared in a pit 20 feet long, 15 feet wide and 5 feet deep will provide enough fodder for a pair of bullocks, one cow and a calf for eight months in a year.

Striga in Sugarcane Fields

Weeds constitute the unwanted vegetation in the Farmer's fields. They are strong and powerful competitors of the crop plant and the latter are at a great disadvantage in this competition. Weeds are the enemies of the farmer and he has to wage a perpetual war against them for the successful cultivation of his crops. All the important agricultural and preparatory operations performed before sowing or subsequent to germination of the crop aim at preventing or destroying the unwanted vegetation. Cleanliness of the fields and eradication of weed is a very important factor which contributes greatly to the success of crop production. There are weeds which grow on the same land side by side with the cultivated crop plants and take their food material from the soil, thus impoverishing it for the crop. The cultivated crop suffers. There is another class of weeds which either live completely or partially on the cultivated plants which serve as hosts. The weed plants lodge as parasites on the tissues of the host and ultimately strangulate them.

Striga is a weed found as a parasite growing on the roots of sugarcane. It is also found in millets and cereals like *Jowar, Bajra*, Maize, Paddy etc. which constitute its host range. A number of species of striga are known, of which three are commonly met with (*S. Lutea, S. Euphrasioides* and *S. Densiflora*). The degree of parasitisation varies depending upon their specific characters. If not checked or controlled in time they do considerable damage to the crops.

Striga is found to grow both on light and heavy soils and in *Rabi* and *Kharif* crops and has in India a wide range of distribution from Punjab in the North to Kerala in the South. The parent striga plant produces a profuse crop of very minute seed which are easily disseminated over short distances by wind, rain or irrigation water. Floods and strong winds may cause wide dispersal of seeds over long distances. The viability of the seed of striga has been variously put at 12-15 years though same research workers have observed that the seed could remain viable for a period ranging from 12 to 40 years. The striga seeds germinate at depths varying from 6″-16″ in the soil and their growth is very much stimulated if in contact with any of the host plants. The presence or absence of light also affects germination differently in different species. Light appeared to be essential in the case of *S. Euphrasioides* and *S. Lutea* whereas *Densiflora* germinates in darkness. *S. Lutea* is more parasitic and cannot germinate without host contact, others may germinate. After germination the body of the parasite grows for 4-8 weeks below the soil surface in the form of thin colourless branches with thin scaly leaves and buds in the axils of the leaves.

The roots are poorly developed, they form haustoria and cling to the roots of the sugarcane plant which presents stunted growth and dried leaves since it is starved. The striga parasite absorbs most of the nutrition, ultimately killing the sugarcane plant. The shoots of striga, the stalks and the flowers are seen near the base of the affacted clumps. They arise in clusters varying from 15-30 in one plant. They vary in colour from white to light pink or light blue. The size of the plant varies from 2 to 2½ ft. in length. The leaves are small, green and long, lancet shaped, flowers are small and are borne in clusters. The parasite becomes visible above the ground in summer months. The plant is annual and after flowering both aerial and under-ground portions dry up and turn black.

On digging a cane plant attacked by striga, it is found that the root of both the host and the parasite form a tangled mass, the roots of the latter (striga) being firmly attached to those of the former (cane). The colours of the roots are different, those of the striga are very much lighter in colour. The reproductive phase of the life cycle of striga is short, i.e., about 4-6 weaks, and the parasite has been observed to have produced seed even after the death of the host plant.

The very minute size of the seed of these parasites, their hardy form, their long viability period, and easy manner of dissemination by water, wind etc. and their underground germination make the problem of control of the parasite weed rather difficult. Weeding and inter-cultivation, though effective, have not been found to be practicable control measures because these are economical since at least 4-6 weedings are required to

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Shoot of Striga densiflora attached to the root of sugarcane plant

IFAP

Policy statements of the Twelfth General Conference

The following is the text of main policy statements of the 12th General Conference of IFAP held in Dubrovnik, May 11 to 23, 1961 :—

Implementation of Food and Farm Policy

1. The Twelfth General Conference of IFAP examined closely developments relating to the Food and Farm Policy of IFAP and, in the light of this examination makes in this report concrete recommendations as to how this Policy might best be implemented.

2. The International Food and Farm Policy agreed to by delegates at the Conference of IFAP in New Delhi in 1959 represents the basic charter of this organization. The Resolution adopting that Policy says, in essence, that there is a great unfulfilled need for food and fibre in the world today; that the farmers of the world possess the basic resources necessary to meet these needs; but that national and international action of a positive character will be required to make this potential abundance available to the world's needy people.

3. At the same time, the New Delhi Report recognizes that the developing countries themselves have, in numerous instances, resources for producing certain kinds of food and other agricultural products in excess of their requirements and that assistance should be given to them to increase their exports of these products at stable and remunerative prices in order to secure foreign exchange for the purchase abroad of industrial and other goods, including agricultural products, needed for their further economic development.

4. Most of the unfulfilled need for food and fibre exists in the developing countries. And, in order to meet the need in this area, there must be a great expansion of agricultural production in the individual countries. Such an expansion will depend, primarily, of the efforts of farmers in these countries aided by their national governments.

5. Lack of production is one major reason for the unfulfilled need for food and fibre in the developing countries. But another major reason is a lack of purchasing power of individual consumers on the farms and in the cities. Until this purchasing power is built up, farmers in these countries cannot afford to utilize to the full their resources for agricultural production.

6. It is essential, if the purchasing power of consumers of food and fibre in the developing countries is to be increased substantially, that emphasis be placed on general economic development in the individual nations. This means that there must be a great expansion of output from industry, from the mines, from the sea—as well as from agriculture. But there also needs to be a great improvement in the infra-structure of national economies (schools, hospitals, roads) before such an expansion of production can be achieved.

The Need for Capital in the Developing Countries

7. It is clear, from the discussion papers prepared for this Conference by the Secretariat (drawing, in this respect, primarily upon reports prepared in the United Nations) that the developing countries of the world need very large amounts of capital from abroad to achieve a satisfactory expansion in their national economies. It has been suggested in United Nations reports that the total amount of capital needed by these countries to achieve a rate of growth of two per cent a year in their national products might require an annual investment of something like $12,000 million per year. The developlng countries themselves, can probably supply no more than $5,000 million from their own resources. The remainder, or $7,000 million, would have to come from abroad.

8. Some of the latter amount could, and should, come from private investment and from the International Bank for Reconstruction and Development and its subsidiaries. But such capital tends to flow to the places where the prospects for gain and repayment are greatest and not necessarily to places where the need is greatest. it is the view of this Conference that much of the additional capital should flow through multilateral channels established within the United Nations system. Specifically, it is suggested that an Economic Development Administration should be established within the framework of the United Nations Organization. That Administration should be an intergrated operation consisting of the Special Fund and the Technical Assistance Administration and also include another branch to deal with such funds and commodities as may be contributed by the wealthier nations for this purpose.*

The Place of Food in Economic Development

9. This Conference feels strongly that food should form a significant part of the capital provided in such a general world economic development programme. These developing countries will have to obtain considerable food from abroad during the process of their development. Much of this food should be secured on a commercial basis, but much will have to be secured, especially in years of bad harvests, on concessional terms. Uptil now almost all of the food secured on such terms have come from the United States. The New Delhi Resolution suggests that as much as possible should be supplied on a multilateral basis, which would give other countries capable of producing supplies in excess of their domestic requirements an opportunity to supply food in such a programme. The Conference, therefore, gave special attention to this possibility in the light, particularly, of the recommendations contained in the Report of the Director-General of FAO entitled : "Development Through Food—A Strategy for Surplus Utilization"

* This branch would carry out the functions of a U.N. Capital Development Fund now agreed to, in principle, by the United Notions.

which was in response to a resolution passed by the General Assembly of the United Nations entitled: "Provision of food surpluses to food deficient peoples through the United Nations system".

10. At a meeting in the middle of April of this year, an Intergovernmental Advisory Committee of representatives from 13 countries reviewed a preliminary draft of a report prepared by the Director-General with the assistance of his staff and based largely on a previous report prepared by an advisory group consisting of five well-known economists from various parts of the world. This intergovernmental committee brought forward one important new suggestion. It was suggested by the representative of the United States that an initial fund of $100 million, consisting of cash and commodities, should be set up to carry out the objectives outlined in the Director-General's report. Further the United States representative stated that his government was prepared to contribute food to such a fund to the value of $40 million plus an unspecified additional amount of cash. Presumably, this suggestion is included in the final report of the Director-General.

11. Unfortunately, printed copies of the report of the Director-General did not arrive in Dubrovnik in time for consideration by the Twelfth General Conference. But Dr. Mordecai Ezekiel, Assistant Director-General, was present and gave the Policy Committee a detailed outline of the Director-General's report and proposals.

12. Much of the report is devoted to an exposition of the anomaly of hunger in the midst of plenty. It points out the nature and the size of the "hunger gap". It argues that, for their full economic development, the developing countries must have a large amount of capital from abroad as well as technical assistance in showing how this and local capital can be put to work to the best advantage. It suggests that food could form a significant part of such capital. It points out that much of such food is already available in the form of excess stocks and much more could be produced in the developed countries for this purpose.

13. But, on the basis of information available to the Conference, the report fails to indicate precisely how, in the terms of the United Nations Resolution, the distribution of food to needly people would actually be carried out. It does seem, however, that the Director-General will purpose that the operation should be an intergrated part of the FAO Rome Secretariat under his general supervision. There would, indeed, be no special agency, as such, to carry out the distribution of food to the world's needy people.

14. The Conference wishes to congratulate the Director-General and his staff on the initiative and energy with which they have responded to the request contained in the October, 1960, Resolution adopted by the United Nations Assembly and welcomes, in particular, the proposal by the Intergovernmental Advisory Committe for the establishmest of a $100 million fund which could be the first step towords the implementation of IFAP's Food and Farm Policy. But the Conference does not feel that the report contains a sufficiently precise indication as to how this ambitious programme will be carrid out in a practical way.

15. It is, however, the impression of this Conference that the Director-General of FAO expects that the greater part of the task will be done through bilateral operations—particularly those of the United States—and only a small part through multilateral operations. Such a procedure would not meet the aspirations of IFAP's Food and Farm Policy. IFAP wishes to get as much of the work as possible done through multilateral operations with food and money contributed by as large a number of countries as possible. Some types of food could be procured by the agency from developing countries having surplus producing capacity.

16 There should be an action agency which, under a competent Administrator, would go about in an efficient way the task of getting as much food as possible into the hands of the world's needy people. This activity should be closely co-ordinated with the large P. L. 480 programme of the United States.

17 A semi-independent International Food Distribution Agency should be established for the purpose —to use the words of the United Nations Resolution—of "mobilizing" supplies of food, and other agricultural products if desired, and of "distributing" such supplies to nations requesting them. Such an Agency might or might not carry out the actual distribution operation. It might, for example, use the services of national agencies, such as the United States Commodity Credit Corporation and the Canadian Wheat Board. But it is essential that the Agency be equipped with funds adequate to enable it to pay, *inter alia*, the costs of transferring the food from areas of abundance to the areas of need. Without such funds the Agency could not function.

18 A fund of $ 100 million would be far from adequate to play an appropriate role in providing the world's needy people the quantity of food indicated as desirable in the report of the Director-General of F.A.O. But, it would be adequate for a pilot scheme on a multilateral basis and to get an International Food Distribution Agency into operation. It is, therefore, recommended by this Conference that such additional resources as may be required be secured.

19 These additional funds should be secured through an Economic Development Administration such as suggested earlier in this report. The proposed Agency should be the "operating arm" of any general economic development fund, so far as the distribution of food as capital for economic development is concerned.

International Food Distribution Agency

20 The Conference therefore recommends that an International Food Distribution Agency be established under the general policy supervision of the Council of FAO. To assist the Council in this respect, an intergovernmental co-ordinating committee should be established at the headquarters of the Agency.

21 The functions of the co-ordinating committee would be (1) to follow closely and give support to the Agency/s operations; and (2) to act as a forum where commercial transactions in food and the utilization of surpluses could be considered jointly by all countries concerned

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President's Letter No. 16

Agricultural Literature

Concessional charges for our members

I have repeatedly said in my speeches before the conferences of the Bharat Krishak Samaj as well as elsewhere that I aspire to make the more intelligent and studious life-members of the Bharat Krishak Samaj as un-official extention agents so that they may help their other brethren living round-about them but who are not capable either of much study or reading or of availing the opportunity of seeing better agriculture. In this effort of mine we want to provide such of the life members as are anxious to take up the above kind of interest to provide as much literature and guidance as possible. During the last few years, the I. C. A. R. has improved its standard of publications greatly and it has also been increased in volume.

All the literature which is produced by it as well as by the Extension Directorate etc., contains lot of information which is of great value to farmers. There are also periodicals like the 'Indian Farming', the 'Kheti' in Hindi and the 'Agricultural Situation in India' which are very valuable journals from the point of view of improved agriculture. I have been wanting to arrange to provide this literature regularly to those members of the Farmers' Forum who will kindly indicate that they are interested in it. We will then move to get utmost possible concessions so that our members may get this literature at the minimum prices.

I would, therefore, request the life-members of the Bharat Krishak Samaj to kindly pay this matter their earnest attention and to indicate which of the publications they would like and whether they would be prepared to pay for them. There would be some concession available but it is not possible to state it just now. If a large number of our members come forward to have this literature, it may be possible to get larger concessions than it may be ordinarily available.

Need of Contour Bunding and Drainage for better Agriculture

One of the popular items of soil conservation is contour bunding. We have had fairly large programme of contour bunding in the Second Plan and we have still bigger in the Third. The State of Maharashtra has done best so far as this programme is concerned whereas some others have lagged very much behind. It is very important for farmers to take to it in all dry farming areas especially where the field levels are not very satisfactory. Ultimately, we will have to aim at levelling our fields otherwise every farmer knows what happens with the top fertile soils and how the crop growing in the field does not get the benefit of fertility uniformally and this naturally lowers the yields very considerably.

I would, therefore, like to draw the attention of my readers to the importance of contour bunding as well as to drainage. We have also neglected drainage in India. The result is that we have too much area which is water-logged and everyone knows that water-logged areas yield very poor crops. Having lacs of acres of *Usar* land is tragic spectacle in a country whose land resources compared to the population and its needs are so limited. What is still more distressing is that this result occurs in our very best lands and because of irrigation. So apart from the need of levelling our lands, it is necessary to pay adequate attention to drainage also. I am afraid the Government itself had not paid much attention to this before but, if the farmers themselves will take it up, I am sure the Government will also give the necessary advice and guidance. Hardly in any civilised and advanced country, there are fields like those we have in India. Of course, it is unthinkable that every field could be levelled and properly drained ; but even a slight improvement wherever it is within the reach of the farmers will lead to better agriculture and more yields.

Importance of Vanamahotsava

Some of you atleast I hope heard my broadcast on July 1, on Vanamahotsava. Farmers are likely to think that Vanamahotsava is not very imprtant for them. I would like to correct this impression and suggest that it is more important to the farmers than anyone else. Our fuel supplies are getting less and less and it is not possible to substitute coal in its place because it is getting very expensive. The consumption of cow-dung cakes for cooking and other heating purposes not only becomes inevitable but there is an increasing demand on it. While on the one hand we would like to save as much of the cow-dung as possible for its use as manure in the fields, we are going in just the opposite direction by creating a situation by which the cow-dung is the sole source of fuel. This situation has got to be remedied urgently otherwise we will not only impoverish our lands but consequently we will find that there is greater and greater demand on it and a day may come when all the cow-dung we have may be burnt to ashes and no portion of it will go to the fields. Under these circumstances we have to take some steps, however small they may be, in the direction of saving it progressively in larger quantities.

Selection of trees

The other aspect which has been referred to in the broadcast is how lack of afforestation cause disastrous soil erosion. Reference has also been made to other important functions performed by tree growth. So I consider it extremely essential that in poorer lands which it is not possible for the farmers to cultivate should be utilised for growing some useful trees ; may be just a few *babul* trees or others. Anything that grows quickly and is not liable to be eaten away by stray cattle may be chosen, because stray cattle in India is a big problem. Many of our efforts are brought to naught because of these cattle. It is for this reason that I have suggested trees which

grow in spite of stray cattle and which are highly important from the farmers' point of view.

Even the ordinary palm trees can give us lot of material for rural industries as making baskets and other articles which do not require much technical knowledge. *'Babul'* is known in some parts of India as the golden tree because nothing of it is wasted. Its pods constitute good cattle-feed and its wood is more valuable than even teak so far as agricultural implements are concerned. Now to grow these along the field boundaries is highly useful and important because the trees that were there formerly are being cut down for fuel requirements but no adequate steps to replace them with new ones are being taken. I would like to draw the pointed attention of my readers to this matter. Of course those who can take little more pains can plant trees like mangoes, tamrind and others which may be more valuable. But those who have no patience should atleast throw about the seeds of *babul Walayati* (Prosopis Julifiora) or *desi* and thus get the vacant land covered with it. There is what is known as the Farm Forestry Scheme in the Third Five Year Plan which is likely to be started in the present year. It means the community of people in a village or a group of villages planting fuel or timber trees in some compact area. There would be need of whole-hearted public support for this scheme to succeed.

IFAP Report on Farm Policy

You will probably recollect that 'International Federation of Agricultural Producers' met in New Delhi at the time of the World Agriculture Fair i.e., in November- December, 1959. The next conference was called by Yugoslavia and it was held there in May. It has brought out an important report on farm policy which would be found elsewhere in this issue. I would like members to study the contents of this policy statement.

Capital—the main need for expanding economies

In the course of this report of the XII General Conference of IFAP held at DUBROVNIK from 11th to 23rd May, 1961, a reference has been made to the need for capital in the developing countries. First it is admitted that the developing countries of the world need very large amount of capital from abroad to achieve a satisfactory expansion in their national economies. It has been further suggested in the United Nations that the total amount of capital needed by these countries to achieve a rate of growth of 2% in the national production might require an annual investment of something like 12,000 million dollars per year. The developing countries themselves can probably supply not more than 5000 million dollars from their own resources. The remainder of 7000 million dollars would have to come from abroad.

Farmers and the 'Capital'

I am quoting this just to indicate how the IFAP has come to the same conclusion as we had in several of our conventions when we resolved to have our own Bank for the sake of improving on the present situation. The report states almost in so many words how the main need of the farmers of the world, especially of the developing countries, is 'capital'. It was this ultimate objective of catering to this need that the Bharat Krishak Samaj has embarked on the task of establishing a Farmers' Cooperative Bank. In due course it is expected to be a federation unit of the "World Cooperative Agriculturists' or Farmers' Bank", when formed.

Panjabrao Deshmukh
President
Bharat Krishak Samaj

Shri P. Thimma Reddy, President of the Andhra Pradesh Krishak Samaj is seen with officers and the members of the Samaj before leaving for U.K. on June 11, 1961, from Begumpet Aerodrome. He has been invited by the Nuffields Foundation for agricultural studies in U.K.

An Appeal to the Members of the Bharat Krishak Samaj

The members are aware that a Farmers' Cooperative Bank of India has been opened for providing more credit facilities to the farmers of the country. The success of the bank will, no doubt, depend on the enthusiasm and the cooperation of the farmers themselves. It is most desirable, therefore, that **each and every life member of the Bharat Krishak Samaj should be a share holder of the Farmers' Cooperative Bank of India.** Members who purchase 10 shares will in addition be also entitled to insurance of the same value according to the scheme approved by the Board of Directors and therefore the farmers should **take this opportunity of doubling the value of their money invested and also enjoy life's cover** by way of insurance. It is expected that every member will try and purchase a minimum of 10 shares so as to take advantage of this unique offer. Those who cannot afford to invest so much should atleast purchase one share to show that he whole-heartedly supports this new venture of the Bharat Krishak Samaj.

Note : Please fill in the form on the reverse and remit the amount immediately.

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with particular reference to the repercussions of the Agency's operations and of bilateral operations in food distribution on commercial transactions. The co-ordinating committee should report to the Council of FAO. With the establishment of the co-ordinating committee the present Consultative Sub-Committee on Surplus Disposal should be discontinued.

22 The headquarters of an International Food Distribution Agency and of an intergovernmental co-ordinating committee should be in Washington D.C., for the following principal reasons. In the first place a large part of the food handled by the Agency will have to come from North America out of the heavy stocks now existing there. In the second place, governments represented on the Co-ordinating Committee for World Food Distribution will doubtless find it more convenient and commercial to have suitable representatives there. This is also true of governments of potential recipient countries which already have representatives in Washington dealing with the United States P. L. 480 programme. In the third place, an Agency in Washington is conveniently located to keep in touch with the proposed Economic Development Administration located in the United Nations in New York.

23 But the most important reason for locating an International Food Distribution Agency in Washington is that it is also the seat of P. L. 480 operations. There is little doubt that P. L. 480, or some successor programme of the United States, will continue to operate for years to come. And it is certain that, for a number of years, the operation of such a bilateral programme will far exceed those of a multilateral agency. Indeed, an international food distribution agency programme cannot be successful unless there is effective co-operation and co-ordination with P. L. 480.

24 In its discussions of this matter, the Conference laid stress on the need for proper arrangements in the recipient countries for getting food distributed in such a way as to assure, on the one hand, that internal prices are not weakened in such a way as to discourage their own farmers from continuing to expand food production and, on the other hand, that the food actually gets to their needy people rather than to traders and speculators. The international Food Distribution Agency could get advice and assistance in this respect from experts of FAO who have studied this problem as well as from experts in the U. S. Government who have confronted the problem in connection with operations under P. L. 480.

25 A World Food Conference should be held to consider the report of the Director-General of FAO and, also, the concrete proposals as to international food distribution contained in this report. Such a Conference should, in effect, take place at the time of the regular November, 1961, Conference of FAO. This World Food Conference should recommend machinery for food distribution along the line of this report and should establish the important principle that food and other agricultural products should constitute an important part of the capital needed from outside sources by countries in the process of development.

26 In addition to the foregoing there should be included on the agenda of the proposed World Food Conference an item concerning the function of an International Food Distribution Agency in responding to requests for food in emergency situations. Moreover, the Conference should give consideration to the possibility of the proposed Agency securing supplies from developing countries which, from time to time, have supplies in excess of their current requirements.

AGRICULTURE GRADUATES TO GET LAND

M. P. Scheme For Model Farms

BHOPAL July 2.—The Madhya Pradesh Government has decided to allot cultivable land to agriculture graduates as an incentive to them to settle in villages and establish model farms which could encourage villagers to adopt scientific methods of cultivation, report PTI.

A Press Note said a scheme for this purpose had been included in the State's third Plan. Under the Rs. 1-lakh scheme, assistance would be given to 15 graduates.

Each graduate would be given 30 acres of land, a grant of Rs. 4,050 and a loan of Rs. 3,200 to clear, plough and improve land, construct a house and buy bullocks, a cart, agricultural implements and seeds.

ICAR Advisory Board Approves
212 Research Schemes For Various States

New Delhi, July 7, 1961 : The Advisory Board of the Indian Council of Agricultural Research, which has concluded its three day session in New Delhi, has approved 212 schemes of research. These schemes involve a total expenditure of about Rs. 4.5 crores spread over a period of five years, of which the share of the I. C. A. R. will be Rs. 1.5 crores.

The Board meeting was presided over by Shri V. Shankar, Vice-President, Indian Council of Agricultural Research and Special Secretary in the Ministry of Food and Agriculture. It was attended by Directors of Agriculture and Animal Husbandry of various States, representatives of Central Research Institutions and non-official members.

Among the agricultural schemes approved are those for breeding of non-lodging and non-shedding varieties of rice as also cultivation of rice under deep water and hilly conditions for the States of Kerala, Andhra Pradesh, U. P. and Madhya Pradesh. Projects for the improvement of buck-wheat in the Lahaul and Spiti Valleys in the Punjab and for the establishment of a high altitude exploratory research farm in Jammu and Kashmir State have also been recommended for sanction.

VIRUS DISEASE

A scheme for intensifying measures for controlling the *kattee* virus disease of cardamom in Mysore and Kerala States and another for the constitution of an expert committee to go into the question of betel-vine wilt disease, which is becoming increasingly severe in States like Madras, were also approved. A survey of brown rot disease of potato, which is prevalent in Maharashtra is proposed to be conducted.

The Board also recommended the strengthening of the scheme for co-ordination of agricultural research and the constitution of a special committee to consider the location and programmes for the Regional Research Stations on fruit and vegetable preservation.

IMPROVED IMPLEMENTS

A number of proposals, especially by the States of Kerala, Gujarat, Mysore, U. P. and Punjab, relating to the trial and improvement of existing agricultural implements and devising of suitable new ones were accepted. Of particular interest are the investigations into the adaptability of garden or walking tractors suitable for rice lands and the designing of a cowdung gas plant for use in the colder regions of the country.

The Advisory Board recommended the provision of a sum of Rs. 25 lakhs for undertaking several projects, including those for the reclamation of saline and alkaline soils, a clean-up campaign against the bunchy-top disease of banana in West Bengal and Kerala and the extension of *Anab-e-Shahi* variety of grape in central districts of Madras. It approved of the award of prizes to create interest among scientific workers and those interested in the cultivation and development of medicinal plants by encouraging the discovery of new methods, techniques or processes which directly improve the yield and quality of medicinal plants.

ANIMAL HUSBANDRY

The Advisory Board also approved for sanction a number of important research schemes in animal husbandry. Among these is the evolving of a new breed of dairy cattle by crossing local cattle with the Jersey breed. This work will be taken up in West Bengal where at present the milk yield of local cattle is poor. A similar scheme for the area around Nasik in Maharashtra was also accepted.

Schemes for eliminating yellow colouration of Indian wool and for finding out methods for the quick fattening of lambs and several projects on animal nutrition and for the control of animal diseases were approved.

The Board recommended the sanction of a scheme for developing a technique for evaluating the economic impact of various improvement measures undertaken for increasing agricultural production.

Development of Forests
Rs. 51 Crores Provided In Third Plan

Speaking at the concluding function of the Vanamahotsava Week at Surhera in Najafgarh Block, Delhi, on July 7, 1961, Shri Shriman Narayan, Member, Planning Commission, said that due to acute shortage of fuel wood, nearly 80 million tons of cow dung, equivalent to 60 million tons of fire wood, is annually burnt instead of being used as manure in the fields.

A high priority had, therefore, been given to forest programmes in the Third Plan, he said. As against an expenditure of Rs. 20 crores during the Second Plan, the Third Plan provided an outlay of Rs. 51 crores for forest development programmes in the States and Union Territories. Special emphasis was being laid on the plantation of fast growing species of short rotation at the rate of one lakh acres annually, village forest plantations and the development of minor forest produce. It was estimated that by the end of the Third Plan an area of about 12 lakh acres would be covered under the programme of village and extension forestry, with the full co-operation of Panchayats, co-operatives and the community development staff. There would be considerable emphasis on the provision of better transport facilities, particularly in the hill areas.

The Third Plan, he informed, provided for the development of 15,000 miles of forest roads for making the rich forests accessible to the neighbouring markets.

Shri Shriman Narayan said that with the help of the United Nations Special Fund, it had been decided to start a project for Pre-investment of more forest resources in India and a provision of Rs. 1.27 crores had been made at the Centre for that purpose. In addition, the Third Plan had made provision for setting up 27 seasoning and 3 seasoning-cum-preservation plants with a view to better preservation of our forest wealth, he added.

(from Page 3)

be carried out within a span of two months. Removal and destruction of affected plants before the striga plant is in flowers, has been recommended. Cultivation of crop like cotton, legumes etc. which do not fall under the parasitic range of striga (unlike *Jowar*, Maize. *Bajra*, Paddy etc) has proved effective in reducing the population of the parasite considerably in the infested fields.

Among the chemical control measures tried, soaking the soil with 2-3 per cent copper sulphate was found to kill the parasite. Spraying the shoots with copper sulphate solution smothers the aerial portion of the striga plant without affecting the underground portion which subsequently gives out fresh flushes. one per cent Te-trachlordimethyl phonoxy acetic acid, one of the hormonal weedicides killed the parasite outright when applied as dust @ 28 lbs. per acre and there were no later flushes, Trials carried out in Bihar (Pusa) have shown that the spraying of Kathon M. 7 and Fernoxone, both derivatives of 2,4-D, was not found effective as a pre-emergence control measure though earlier it was observed that Fernoxone was effective as a post-emergence application. Experiments carried out in Bihar, Punjab and Madras have shown the efficacy of 2,4-D Sodium salt applied in cencentrations 1 lb. in 100 gallons in Bihar, 1.5-2.5 lbs. in 2.0 gallons in Punjab and 2.5 lbs. in 200 gallons in Madras as effective in controlling the parasite.

Striga was first reported in India in 1921 as a root parasite on sugarcane and subsequently its occurance was recorded in Punjab and Bihar during 1942-43. The losses worked out in Bihar during 1955-56 were estimated to range between 4.8-39.9 per cent and 0.03 to 10.0 per cent in the acre yield and sucrose contents, respectively of sugarcane.

(All complaints regarding root parasites may be brought to the notice of the State Sugarcane Research Stations for rendering necessary advice to the cultivators for their control).

By courtesy : Indian Central Sugarcane Committee.

Sugarcane plant killed by Striga densiflora

Statistics

Statement Showing Statewise figures of area, production and acre yield of sugarcane, number of sugar factories worked, quantity of sugarcane crushed, sugar produced and recovery of sugar percent cane during 1959-60 and 1958-59

Sr. No.	State	Area under Sugarcane ('000 acres)		Production of Sugarcane ('000 Tons)		Acre yield of Sugarcane Tons		Number of sugar factories worked during		Quantity of Sugarcane crushed in factories ('000 tons		Quantity of sugar produced ('000 tons)		Recovery of sugar per cent cane	
		1959-60	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60	1958-59
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Andhra Pradesh	183	181	6,270	6,606	34.3	36.5	11	11	1,394	1,279	137	120	9.83	9.42
2.	Assam	68	68	967	967	14.2	14.2	1	1	58	23	4	2	6.90	7.69
3.	Bihar	443	405	6,526	6,055	14.60	15.0	28	28	3,445	3,174	325	311	9.43	7.79
4.	Gujarat and Maharashtra	331	302	8,884	7,668	26.8	25.4	28	27	3,422	2,799	401	321	11.72	11.46
5.	Kerala	22	22	358	350	16.3	15.9	1	1	119	133	10	11	8.40	9.30
6.	Madhya Pradesh	99	85	1,062	894	10.7	10.5	5	5	290	223	28	21	9.66	9.62
7.	Madras	145	144	3,744	3,506	25.8	24.4	6	5	912	843	83	76	9.10	9.01
8.	Mysore	147	141	3,843	3,918	26.1	27.8	7	6	809	817	86	85	10.63	10.36
9.	Orissa	55	55	732	732	13.3	13.3	1	1	30	30	3	3	10.00	9.45
10.	Punjab	592	515	8,570	7,250	14.5	14.1	6	6	1,101	805	101	69	9.17	8.58
11.	Rajasthan	69	49	595	417	8.6	8.5	2	2	139	77	12	7	8.63	9.10
12.	Uttar Pradesh	2,917	2,747	32,027	30,765	11.0	11.2	70	70	12,594	9,274	1,220	886	9.69	9.59
13.	West Bengal	81	66	1,278	1,174	15.8	17.8	2	1	98	70	9	7	9.18	10.27
14.	Other territories	26	23	182	154	7.0	6.7	...	...	...	...	...	...	...	...
	Total India	5,178	4,803	75,038	70,456	14.5	14.7	168	164	24,411	...	2,419	...	9.91	9.84

Note—(1) Figures for 1959-60 are provisional.
(2) Figures of Cane production and acre yield for Andhra Pradesh are tentative and are subject to revision.

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Research News

NITROGEN FOR SUGARCANE

OILCAKE AND AMMONIUM SULPHATE MIXTURE BETTER

Better results can be had from the sugarcane crop if it is given nitrogen in both organic and inorganic forms, rather than the inorganic form (as ammonium sulphate) alone, research at Coimbatore in Madras State shows.

In the State, a high dose of 200 to 250 pounds of nitrogen is recommended for sugarcane. Of this, it is pointed out, one third is to be supplied in the organic form such as an oilseed cake like groundnut cake, and the rest as a fertilizer like ammonium sulphate.

This is to be applied in two doses. The first dose comprising 500 pounds of groundnut cake and 325 pounds of ammonium sulphate is to be applied 75 to 80 days after planting, and a second similar dose to be applied 125 to 140 days after planting.

The crop should, in addition to nitrogen, also receive phosphate and potash to give the best yield. Normally, 60 pounds of phosphoric acid and 80 pounds of potassium is the dose advised. This is to be supplied at the time of planting sugarcane.

DIBBLING COTTON ON RIDGES

Better Sowing Method

As in the other areas, dibbling cotton seed on ridges is the better method of sowing cotton in the Tungabhadra Project area under light irrigation, it is found.

The customary practice in this area is to sow cotton with country drills having 'draw tube' attachments. This way, the seed is unevenly distributed in the furrow, causing wide gaps in the crop, leading to a poor yield.

The better method would be to prepare ridges nine to ten inches high a week prior to sowing, and to dibble the seed on these ridges.

Experiments at the Dhade Sugar Research Station (Mysore State) showed that the dibbling of seeds directly on the ridges increased the germination percentage, and gave a good stand of the crop. The plants were taller, and put out a greater number of nodes and bolls.

WILT—RESISTANT CORIANDER

Will Benefit Madhya Pradesh Farmers

Wilt, the disease which used to damage the coriander crop in Madhya Pradesh, can do no harm to the new coriander variety evolved at Gwalior.

The new variety is simply named *No. 5365*. It is small seeded (liked by the trade), and matures in 110 days. Apart from resisting the wilt disease, it gives a high yield of 12 to 15 maunds of seed per acre.

The variety can be grown well under dry or unirrigated conditions.

Seeds of the new variety are being made available to farmers by the Assistant Economic Botanist, Agricultural Research Institute, Gwalior, Madhya Pradesh.

VIGOROUS ARECA SEEDLINGS

New Nursery Practices

Farmers are now getting better and stronger arecanut seedlings for planting by following practices proved best by research.

Research has shown that selected heavy seed-nuts should be sown in nurseries in a horizontal or vertical position (with the stalk end just exposed), one inch apart for sprouting.

The sprouted nuts should then be planted 15 inches apart. In 1½ years they grow into vigorous seedlings with a good girth and five leaves and a spindle, and a well-developed root system.

Good irrigation is necessary during the drier months for the sprouting and growth of the seedlings, and so is shade.

For shade, bananas should be interplanted at wide distance. If gliricidia or giant hemp is chosen as plant for shade, a closer spacing should be given.

Manuring can be taken up only if the seedlings are found to be slow in growth.

FERTILIZER FOR COTTON

Profits Go Up

Recent trials in Madras State show that the cotton being grown in rice fallows brings better profits if given fertilizer.

In trials, it was seen that without fertilizer, the crop yielded 1,030 pounds of *kapas*. A crop given 375 pounds of ammonium sulphate per acre, it was seen, gave an extra 536 pounds of *kapas*.

Farmers should apply half the dose of ammonium sulphate when the crop is 20 to 25 days old, and the remaining half when it is 60 days old.

The fertilizer should be applied as close to the root zone as possible, taking care to see that it does not fail on any part of the plant.

The crop should be irrigated immediately after the fertilizer is applied.

RED HAIRY CATERPILIAR

Bad Pest of Groundnut

The red hairy caterpillar, which did a great deal of damage to the groundnut crop in the South last year, can be brought down with just two dustings of BHC, experts point out.

The first dusting with ten per cent BHC should be done as soon as the young (just hatched out) caterpillars are seen on the crop. The dusting should be done not only on the crop, but also on field bunds and on weeds growing round the fields.

A second dusting should follow after a fortnight when the next batch of the caterpillars come out.

For each dusting, about 30 pounds of the chemical will be required per acre.

Control will be difficult and costly if timely action is not taken by farmers and the caterpillars allowed to grow.

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