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INFRASTRUCTURAL SUPPORT FOR DRYLAND AGRICULTURE

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Application of science and technology is necessary to increase factor productivity in dryland farming. Improved technologies have been developed at the 23 dryland research centres located in different agro-climatic regions of the country. The improved management practices recommended on the basis of research results have been tested on the farmers' fields and they were adapted and adjusted according to local situations wherever necessary. Most of these technologies were found to be financially viable in large scale field testing. But the pace of adoption of the improved dryland technologies has been found to be rather slow. The poor resource base of the dryland farmers and their lack of investment capacity appear to be the main bottlenecks in the quick transfer of technology. Besides, there are infrastructural shortcomings standing in the way. Government should intervene on the policy front and develop institutions to make the improved technologies accessible to the dryland farmers. A lot of support has to be given in the areas of credit, prices, marketing, input supply and extension to help the dryland agriculture move forward.

CREDIT SERVICES

Capital being a scarce resource to the dryland farmers, a strong credit support is essential for them to adopt improved technologies involving cash investment. The rate of interest charged by the non-institutional sources such as moneylenders, is ranging from 24 to 60 per cent per annum in the dryland areas. Dryland farmers find it unremunerative to borrow credit at such high rates of interest and invest it in risky crop production enterprises. In the interest of social justice, financing the dryland farmers should be the first charge of the financial institutions. But the financial institutions are shying away from this responsibility. They prefer to finance industry or business over agriculture and irrigated farming over dryland farming. This preference stems as much from scale economies as it is from risk aversion. For any given sum of money to be advanced, the number of clients to deal with increases as they move from industry to agriculture and from irrigated farming to dryland farming. But the banking system of our country is mighty enough to take these additional costs and risks in its stride. Just as the banks have fanned out into the rural areas and financed (irrigated) agriculture in the post-

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nationalisation period, it is time that they spread out into the dryland tracts and serve the hapless dryland farmers.

The present share of dryland farming in the total agricultural credit is admittedly very low. A field study of agricultural credit in Gadwal block of Mahaboobnagar district in Andhra Pradesh revealed that the share of dryland crops was only 20 per cent of the crop loans advanced by the institutions. The irrigated area in the block was only ten per cent of the cropped area, but it accounted for 80 per cent of the crop loan amount. These figures indicate the bias is in favour of irrigated crops in agricultural credit. There is a common apprehension that the loans advanced to the dryland farmers may not be recovered. But even when the banks are financing irrigated crops only, overdues are mounting, mainly because of lack of monitoring and follow-up.

It is high time that the banking system gears up to face the challenge of financing dryland farming. An initial target may be set to the banks that dryland farming should receive at least one-third of the total agricultural credit disbursed. It was found in our field study that commercial banks have become too elitist to finance dryland farming and Regional Rural Banks (RRBs) are better suited to the job. Efforts must be made to strengthen the RRB set-up and special incentives may be given to them to finance dryland farming. The performance of the agricultural officers serving in the dryland areas should be assessed on the basis of the number of dryland farmers serviced, but not on the total loan amount disbursed. It must be made mandatory to the banks to submit a periodical return containing information on the amounts advanced to irrigated and dry farming separately. The financial institutions should also cut down the loaning formalities to the barest minimum. Since dryland farming is weather dependent, the repayments have to be scheduled with an in-built flexibility linking to the performance of crops in the area. The Government should consider interest subsidy for selected dryland crops and specific situations involving greater risk. Wherever possible, credit should be linked with input supply and recovery with the marketing of the produce.

PRICES AND PROCUREMENT

Dryland crops are not fetching remunerative prices in the market and it is acting as a disincentive to increase production from drylands. The policy of the Government of India to keep down the prices of foodgrains much below the real cost of production is particularly harming the interests of dryland farmers. The real cost of foodgrain production is much higher than the financial cost of foodgrain production or the minimum support prices offered for foodgrains as the latter do not include the capital subsidy on irrigation as well as subsidies for power and fertilisers. Farmers with irrigation facilities enjoy most of these subsidies and are, therefore, in a position to offer their produce for sale at the procurement prices. But the dryland farmers, who do not receive the benefit of either public investment or the subsidies, have to compete with farmers enjoying irrigation facilities in the supply of foodgrains. Because of this reason, the dryland farmers are clearly at a disadvantage.

Rapid strides were achieved in the productivity of superior cereals, wheat and rice during the last two decades. It is expected that such a technological breakthrough would reduce the cost of production per unit of output. But in the fixation of the minimum support prices, these two cereals continue to get favoured treatment. To illustrate this point, the minimum support prices fixed for paddy and coarse grains during the period 1971-72 to 1985-86 are presented in Table I. Initially, the minimum support prices of coarse grains were marginally higher than those of paddy. Later, the prices of paddy and coarse grains were fixed at the same level for some years. In recent years, paddy prices were fixed at levels higher than those of coarse grains. The prices fixed for other dryland crops, pulses and oilseeds are very unrealistic in the sense that they are far below the market prices. In fixing the support prices for dryland crops, no allowance is made for risk and uncertainty.

TABLE I. MINIMUM SUPPORT PRICES OF PADDY AND COARSE GRAINS FROM 1971-72 TO 1985-86

Year	(Rs./qtl.)	
	Paddy	Coarse grains
1971-72	47.00 to 58.00	55.00
1972-73	49.00 to 58.00	57.00 to 60.00
1973-74	70.00	70.00 to 72.00
1974-75 to 1976-77	74.00	74.00
1977-78	77.00	74.00
1978-79	85.00	85.00
1979-80	95.00	95.00
1980-81	105.00	105.00
1981-82	115.00	116.00
1982-83	122.00	118.00
1983-84	132.00	124.00
1984-85	137.00	127.00
1985-86	145.00	130.00

Source: Fertiliser Statistics, 1982-83, Fertiliser Association of India, New Delhi, 1983 and News papers.

Not only the support prices of dryland crops are low and unremunerative, they are hardly supported by the procurement operations. The performance of the public procurement agencies has been dismal in protecting the interests of the dryland farmers during the glut periods. The coarse grains do not figure much in the public distribution system or in the Food for Work Programmes. The Government sponsored subsidy programmes for superior cereals are adversely affecting the demand for and consumption of coarse

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grains. Unless corrective measures are taken to reverse these policies, dryland farmers will have no incentive to produce more. In order to enthuse them, it is necessary to fix remunerative support prices and procure them in the hour of need.

MARKETING SERVICES

Marketing services are under-developed in the dryland areas essentially because the marketable surplus is low and uncertain in these areas. With the spread of new technologies the production and the marketable surplus are likely to increase and become more dependable. And also, new crops are being introduced as they are found efficient in some of the dryland areas. The present marketing facilities are inadequate to handle higher production or new products. The density of regulated markets is very low in the dryland areas. The major aspects of marketing that need immediate attention are storage and processing facilities. Traditional methods of storage require less capital, but are inefficient in checking the storage losses. Storage losses are quite high in some of the dryland crops, particularly in the case of pulses. Lack of storage facilities affects the bargaining capacity of the farmers and they are forced to sell their produce immediately after the harvest, irrespective of the price prevailing in the market. If warehousing facilities are provided to the dryland farmers on hire basis, they can wait till the market prices recover. If this facility is further coupled with credit against hypothecation of stocks, their bargaining capacity will receive support. Processing facilities are necessary for newly introduced crops like soyabean, sunflower, etc., if they are to be accepted by the farmers. In the case of coarse grains, the consumer preference is waning over time and the only way of propping up demand for them is through processing them into new forms with alternate uses. Attractive incentives must be offered to those who start industries using the dryland products as inputs. Unless marketing services are developed, it is difficult to generate enthusiasm in dryland farmers to produce more.

INPUT SUPPLY

Adoption of new technologies requires the use of new inputs such as improved seed, fertilisers, plant protection chemicals and improved machinery. An infrastructure which could ensure the supply of these critical inputs at a cartable distance, will go a long way in giving a push to the dryland technology. There is a deficiency in the supply of quality seeds in the case of dryland crops, specially in pulses and oilseed crops. The seed production agencies will have to be geared up to meet the vast requirement of quality seed in dry areas. The national network of dryland research centres has evolved contingent plans for meeting aberrant weather situations. These plans will remain on paper only unless they are backed up by a chain of seed banks, stocking quality seeds of various crops and varieties so as to meet the contingent demand. Private firms selling fertilisers and plant protection chemicals are guided by the profit motive and are not active in the dryland regions as the demand forces are weak there.

The State departments of agriculture should make these inputs available to the needy farmers with an aggressive supply system. Timely sowing, timely weed control and timely plant protection measures result in higher yields. Similarly, precision in seeding rate and depth, fertiliser placement and optimum doses of pesticides make the inputs more effective and efficient. It is, therefore, necessary to think in terms of custom hiring of equipment and service subsidies. Dryland farmers are unable to carry out the operations on time, mainly because of lack of draft power and equipment. Custom hiring facilities should be made available to the dryland farmers either directly by the Government or through a network of depots manned by self-employed persons with proper training. A system of providing service subsidy to the vulnerable sections should be incorporated into these custom hiring units. Marketing should be linked up with the custom hiring services for timely operations and input supply.

EXTENSION

It is necessary to develop the skills of the dryland farmers so that they can reap the full benefits of new technologies. Training and spot guidance have been observed to be very effective tools in improving the skills of the dryland farmers. The experience of the *Krishi Vigyan Kendra* of the Central Research Institute for Dryland Agriculture has been very rewarding in this regard. The impact of training was seen in the form of higher yields of the trained farmers. A two-day training before the start of the season, followed by a one-day training in the middle of the season has been found to be adequate for the purpose. Considering the magnitude of the problem, the training facilities and manpower for spot guidance will have to be increased manifold so as to give full coverage to the millions of dryland farmers. At present, the training and visit (T & V) system launched in some of the States allots one extension worker for 800 families. Actually, the need to bring about the desired changes in the attitudes and skills of the farmers is more in the dryland areas than in the irrigated areas. Therefore, one extension worker must be provided to every 400 dryland farmers. In areas where drylands are being developed on a watershed basis, the extension support has to be still intensive as soil conservation, afforestation and other land use systems are also taken up, besides crop production, in these areas.

CROP INSURANCE

The fear of crop failure always hangs like a Damocles' sword on the heads of the dryland farmers. Investing on purchased inputs is certainly a risky game and a suitable insurance cover is necessary to see that the farmers are not ruined. Given the large number of farmers and small sizes of the farms, it is not feasible to have individual farm-centred insurance programmes. In order to cut down the cost of administering the crop insurance programme, crop loan insurance alone appears to be feasible, at least initially. Such a programme suffers from the disadvantage that it will not insure the losses

suffered by the individual farmers, but comes to their rescue only when there is a crop failure in a much larger area. The probability of crop failure being higher in the dryland areas, the premium charged is also quite high relative to the capacity of the dryland farmers. In view of this, there is a strong case for subsidising the premium by the Government, at least in selected high risk areas. Although many dryland crops are covered under this programme, not many dryland farmers are able to take advantage of it because a large majority of them are not availing crop loans from the financial institutions. In order to facilitate the adoption of improved dryland technologies, it is necessary to extend credit to the dryland farmers, along with an attractive crop loan insurance component.

CONCLUSIONS AND POLICY IMPLICATIONS

Keeping in view the poor resource base of the dryland farmers and underdevelopment of institutional facilities in the dryland areas, a massive effort is needed on the institutional front to help move the dryland agriculture forward. Special attention should be given to credit services, as capital is the most limiting resource in dryland areas. A time-bound target should be given to the financial institutions to increase the share of dryland farming in the total agricultural loan portfolio. It is desirable to have linkages between credit and input supply, on the one hand, and marketing of produce and loan recovery, on the other. The dryland crops have been discriminated against while fixing minimum support prices and in the procurement operations. Unless the wrong done is set right and a favourable marketing system is created, there will be no incentive to the dryland farmers to produce more. A strong input supply programme is needed to facilitate adoption of new technologies and a strong extension support to enhance the skills and capabilities of dryland farmers. Above all, a crop insurance cover should be provided to dryland farming to enable the farmers take risks and invest in it.

Some of the foregoing suggestions need heavy investments and also subsidies to some extent. They are inescapable if the dryland farming is to progress. Such investments, subsidies and preferential treatment were earlier provided to several industries and irrigated farming also. Now it is the turn of dryland farming to get these benefits. It is particularly essential to bring about equity between regions and groups of farmers. Above all, it is necessary for the survival of a large mass of the population which will ever be dependent on dryland farming.