FIRST
REPORT
OF THE
COMMITTEE ON LARGE-SIZED MECHANISED FARMS

GOVERNMENT OF INDIA
MINISTRY OF FOOD & AGRICULTURE
(Department of Agriculture)
NEW DELHI

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CHAPTER I

INTRODUCTION

A variety of measures have been and are being taken from time to time to help solve the food problem of our country. The establishment of Central Mechanised Farm, Suratgarh in August 1956, covering a gross area of roughly 30,000 acres in Rajasthan under the direct control of the Central Government is yet another project launched with the same objective in view. This Farm set up with the aid of a composite unit of agricultural machinery and equipment received as gift from the Government of U.S.S.R. has kept on making steady progress right from its inception to-date and has nearly achieved its principal objective, namely, production and multiplication of improved seeds.

2. Encouraged by the success achieved at the Central Mechanised Farm, Suratgarh and in the context of the important role played by State Farms in U.S.S.R. in the building up of large stocks of foodgrains, the Cabinet took a decision in February 1959 to appoint a small committee of experts to examine in detail the economics of large State-owned farms in the light of the experience gained at the C.M.F., Suratgarh with a view to setting up more such farms elsewhere in the country on the pattern of the Central Mechanised Farm, Suratgarh. Such an examination in consonance with the objective aimed at, has necessarily to take into account, among other things, initial capital outlay on buildings, machinery and equipment, availability of large compact blocks of land with adequate irrigation facilities or potentiality for immediate development of such facilities.

3. Pursuant to the Cabinet's decision referred to above, the Ministry of Food and Agriculture (Department of Agriculture) appointed in August 1959, a Committee composed of the following officials and non-officials under the Chairmanship of Shri K. R. Damle, Secretary in the Department of Agriculture:

1. Shri Nawab Singh, Adviser, Planning Commission
2. Shri Joginder Singh, Member of Parliament.
3. Shri Kanwar Sain, Chairman and Administrator, Rajasthan Canal Board.

4*. Dr. B. N. Uppal Agricultural Commissioner, Indian Council of Agricultural Research.

5. Maj. Genl. T. Mahadeo Singh, General Manager, Central Mechanised Farm, Suratgarh.

6. Dr. P. S. Lokanathan, Director General, National Council of Applied Economic Research, New Delhi.

*Succeeded by Dr. J. S. Patel.

The terms of reference of the Committee, as indicated in the orders (Appendix I) regarding its appointment are reproduced below:

(i) to consider in detail the economic of operation of State-owned mechanised farms in the light of experience obtained in the case of Suratgarh Farm taking into account all the relevant factors such as the cost of machinery, development of land, construction of essential buildings, running expenses, etc.;

(ii) to submit proposals for the setting up of new State Farms taking into account the availability of land and irrigation facilities, giving separate financial forecasts of seasonal and perennial irrigation; and

(iii) To consider any other relevant matter that might be placed by the Government of India before the Committee.

The Committee was required to submit its report within a period of three months from the date it began its investigations. This has, however, not been possible due to various reasons which will be briefly mentioned in the latter part of this report.

4. In order to make the task of the Committee easy, enquiries had already been made from all States with the exception of Union Territories and the two States of Assam and Jammu and Kashmir in regard to the availability of suitable compact blocks of land answering the following essential requirements:—

(a) Adequate irrigation facilities;

(b) Compactness of the area;

(c) Ready availability of land for cultivation;

(d) Soil and terrain with a view to ensuring effective utilisation of machinery throughout the year;

(e) Adequate means of communications; and

(f) Proximity to established markets for disposal of Farm produce.

The reasons for excluding the Union Territories and the States of Assam and Jammu and Kashmir seem to be the improbability of locating large compact blocks of the required size in the mountainous or sub-mountainous region where Assam and Jammu and Kashmir happen to be located and the comparatively small size of the Union Territories.

5. As per our terms of reference, we now proceed to examine the economics of large State-owned farms in the light of the experience gained hitherto at the Central Mechanised Farm, Suratgarh. Before we commence this examination, we would like to draw attention to the fact that the final result derived from our analysis of the economics of the Suratgarh Farm should not be made the sole criterion to determine the remunerative aspect of such farms as may be located at sites having ideal conditions. This Farm, it may be pointed out, has hitherto been run largely on non-perennial irrigation, perennial irrigation having been made available through a system of lift irrigation for a small area of only about 3,000 acres and that too from the year 1958 onwards.

6. The gross area of the Central Mechanised Farm, Suratgarh is roughly 30,000 acres of which 22,000 acres are earmarked for cultivation, 2,000 acres for orchards, 1,500 acres for animal husbandry schemes and the balance of 4,500 acres is accounted for by sand dunes, roads, buildings, channels, etc. The total capital investment on the Farm, including the cost of the gift machinery would be of the order of Rs. 227·64 lakhs of which a large component of Rs. 118·00 lakhs is accounted for by buildings both residential and non-residential. The balance of Rs. 109·64 lakhs is made up of Rs. 95·00 lakhs for machinery plus Rs. 2 lakhs being the likely cost of foundation stock for projected schemes of animal husbandry, Rs. 10·00 lakhs for land development including reclamation and Rs. 2·64 lakhs towards compensation paid to the owners/lessees displaced from the occupied area. The last mentioned figure of Rs. 2·64 lakhs includes a sum of Rs. 1·55 lakhs paid as compensation for kutcha houses, wells, tanks, etc. owned by the persons displaced from the occupied area. Spreading the total capital investment on the area of 25,000 acres utilised for production activities the investment per acre works out to Rs. 900/-. The share of capital investment accountable towards 'Land Development' in this particular case is considerably low, because of the fact that very little of what is termed as heavy reclamation work was required to be undertaken in the Farm area. The land under the Farm was fairly even and flat and some growth of scrubs, thorny bushes existed only in a small section of the farm area. In areas where reclamation involves clearance of thick jungle growth, the cost of reclamation, judging from the experience of Central Tractor Organisation will vary from Rs. 250 to Rs. 300 per acre.

7. Examining the normal running expenses incurred at the C.M.F. Suratgarh we find that they have increased with the expansion of farming operations over larger areas from year to year. The increase in the running expense is not directly proportional to the increase in the cultivated area for the obvious reason that overheads like expenditure on administrative and supervisory staff do not go up in the same proportion; rather, these remain more or less constant. During 1959-60, when roughly

90% of total cultivable area had been brought under crops, the running expenses amounted to Rs. 21·60 lakhs. We estimate that the running expenses, when the farm is fully developed, will work to Rs. 36·00 lakhs. Thereafter there will be only nominal increases resulting from grant of annual increments to staff drawing pay in time scales of pay. Our estimate is that the operational expenses will revolve round a figure of Rs. 175/- per acre. The details of the running expenses given in Appendix II can be regarded as fairly realistic, allowing a margin of 5% for fluctuations. It will be seen that the expenditure on staff represents 33-1/3% of the total running expenses which we consider a little on the high side but nonetheless justifiable on a venture of this magnitude. We are, however, inclined to believe that it should be possible to bring about some saving in the expenses on labour if more labour-saving devices could be devised after carrying out experiments keeping in view the local requirements. We strongly emphasize this, as it will also reduce our dependence on manual labour which it is difficult to get in that sparsely populated area and consequently the wages demanded are high.

8. Coming to the income aspect of the scheme, we find that despite natural calamities and inadequacy of irrigation supplies, the farm has been able to register profits in the years 1956-57, 1958-59 and 1959-60. We are given to understand that the figures of profits mentioned in the relevant Profit and Loss Accounts are yet to be certified by the Accountant General, Rajasthan. Normally, such encouraging results would not have been achieved in the initial stages when only a portion of total Farm area was put under cultivation. We are led to infer that this may be due to the virginity of the soil contributing to better yields and in no small measure to better cultivation under mechanised mode of farming. We have good reasons to believe that the present level of yields can be maintained by application of manures and fertilizers in a greater degree to help soil recoup its fertility. We feel that in this farm or any other farm, given the necessary facilities particularly perennial irrigation, it should be possible to get a return of 6% over the initial capital investment after recovering in full the running expenditure including invisible charges like interest on capital, depreciation on capital assets, etc. From this it follows that the entire investment can be recovered in a period of 16 years or say 20 years, making allowance for one year in every slab of four years when normal production may not be achieved due to natural calamities and other unforeseen factors peculiar to agriculture.

CHAPTER II

EXAMINATION OF STATES PROPOSALS

The Committee regret to point out that the response from States to the enquiries regarding availability of land (to which a reference has been made in para 4 of Chapter I) was poor. Data about compact blocks of 30,000 acres or more answering the essential requirements laid down, had been called for. Most of the States took unduly long time to send their replies. Considering the feeble response, the Committee decided to obtain data about small blocks of 10,000 acres or more. Even after the reduction made in the size of the block, the response from States was no better. We now proceed to discuss in the following paragraphs such proposals as were received from States.

2. The States who sent in positive proposals are Rajasthan, Bombay, Andhra, Punjab, Mysore, Orissa and Bihar. Madhya Pradesh had at one stage suggested some sites, but on actual surveys carried out by them they intimated that the sites suggested earlier were no longer available. While the Committee desired to locate farms in all parts of the country it was mainly concerned in locating such places where land was readily available and irrigation facilities were assured, so that immediate food production could be undertaken. The proposals from each State are discussed below:

(1) **Bombay.**—Two sites were suggested. One is suggested in Banni area in Kutch district and the other in Karad Taluka of North Satara District. (The former is now a part of Gujarat State and the latter is in Maharashtra). The land offered in Banni area is all Government land and it answers practically all the essential requirement laid down. The Committee consider it quite suitable but for one major defect. This area is seasonally inundated by sea and any scheme to prevent its flooding would be in the nature of a major project involving a big outlay and requiring several years to complete. The land offered in Karad Taluk measures 28,984 acres and is mainly within the jurisdiction of a local Sugar Factory. All this is private land and is under cultivation. The State Government suggested that it could be considered for introduction of mechanised farming on co-operative basis. For setting up of a State Farm in this area, the entire land would have to be acquired which will involve payment of heavy compensation. Besides, acquisition of land on such a large scale will take a long time to complete. For these reasons we do not recommend any of the two sites suggested in the composite State of Bombay as suitable for the purpose in view.

(2) **Bihar.**—Five blocks were suggested of which the largest one measuring 30,000 acres was withdrawn by the State Government themselves as on close examination it was not found to be suitable. Three blocks of 10,000 acres each are suggested in the districts of Monghyr, Gaya and Bhagalpur respectively. None of these answers fully the essential requirements laid down. Irrigation facilities are practically non-existent in the Monghyr Block. In the other two blocks only partial irrigation can be given from two local irrigation projects, namely Lilazam Scheme in Gaya and Badua Dam in Bhagalpur. The State proposed to enlarge the small order of irrigation on the two local schemes by undertaking construction of percolation tanks. These would have only assured lift irrigation sources. The fourth block is of 25,000 acres and is located in the district of Purnea. The entire block lies in the command of the Araria Branch Canal of the Eastern Kosi Main Canal System and will receive irrigation after completion of the major Kosi Project. This and the other three blocks are presently occupied by private cultivators. For setting up a State Farm land acquisition on a large scale will have to be resorted to. For this and other reasons stated above we do not recommend any of the four blocks in Bihar for the purpose in view.

(3) **Orissa.**—One block of 10,000 acres in Nawapura Sub-division of Orissa was suggested. The land is all State owned, but it does not answer the essential requirements laid down. Apart from lack of irrigation facilities and satisfactory means of communication, there is thick growth of jungle and here and there stony patches are found in the area. This very site was offered by the State Government when similar enquiries had been made from the States early in 1956. The Site Selection Committee then constituted to examine the various sites did not approve of it for these very reasons. We endorse the finding of the earlier Committee and do not recommend it.

(4) **Punjab.**—A block of 30,000 acres forming part of the land under the State Government Livestock Farm, Hissar was offered. The offer made was subject to the condition that if a Farm were to be set up there, it would be run by the State Government and that the present character of the Farm as a Livestock Breeding Farm would be maintained. This implied that emphasis would continue to be laid on fodder crops in preference to cereals. While we do recognise that the area is quite suitable from all points of view, we do not support the idea of setting up a State Farm there in view of the conditions imposed by the State Government. The State Farms, we have in view are primarily intended for raising cereals.

(5) **Mysore.**—Four blocks of 10,000 acres each in Raichur District where irrigation from Tungbhadra is planned were offered with the suggestion that they be considered for establishment of mechanised Farms on co-

operative lines. All this land is owned by private cultivators. Large-scale acquisition of land will be necessary and heavy sums may have to be paid towards payment of compensation to owners. This process of land acquisition would be time consuming and land will not be available for immediate increase in food production. We do not, therefore, recommend any of these four blocks for the purpose in view. The possibility of locating a suitable block in Periyapatna-Hunsur Talukas of Mysore District was also explored. On examination of the data placed before us, we found that a major portion of this area is under forest. The clearance of forest will be costly and take a long time to complete. As it did not serve our objective, the proposal was dropped.

(6) **Madhya Pradesh.**—Two tentative sites, one in Morena district and the other in Guna district had been suggested. Both were subsequently withdrawn. Lately the State Government have located a block in Betul which has been suggested for consideration. Even before this offer came, the Committee had examined it with the help of data received from the State Government by the Wastelands Reclamation and Surveys Committee. This area does not have any irrigation arrangement. Construction of new works would be time consuming and may not serve the entire area. Also, the topography of the area is uneven and is cut up at various places by numerous *nalas*. Reclamation and levelling of land is likely to be costly. We do not, therefore, recommend this area for setting up of large mechanised farm.

(7) **Andhra Pradesh.**—Two blocks, one in Godavari North Canal Project (Kadam) area and the other in Emmiganur Block under the Tungbhadra Canal were proposed. The block in Kadam area is of 29,000 acres while the other one in the command of Tungbhadra Canal is of 28,000 acres. The particulars furnished originally by the State Government did not give complete information. It had to be called for and as the State Government took long to furnish the desired information, Shri Mahavir Prasad, Irrigation Adviser had to go to Hyderabad towards the close of June, 1960. He had detailed discussions with the concerned Irrigation Engineers and other officers of the State Government. Both the blocks suggested are in the command of Irrigation Projects that were undertaken recently. Local people have been anxiously looking forward to receiving benefits from new irrigation works that are in hand and it is doubtful if the people of the area would willingly hand over their lands for setting up of large State Farms. (The bulk of the land in both the sites is under private ownership at present). Land acquisition is thus likely to be unpopular in both the areas. Even if special procedures are laid down for land acquisition, the process of land acquisition will at least take one year to complete. The cost of dry land in both the blocks ranges from Rs. 400 to Rs. 600/- per acre and that of wet land is about Rs. 1,000 per acre. Besides, about 10% of the area is stated to be under

scrub jungle, the reclamation of which may cost about Rs. 150/- per acre. In view of the rolling topography of the blocks some land levelling work will also be necessary adding to the cost of land development. Irrigation arrangements contemplated for these two areas are mainly for single crop cultivation. For double cropping under mechanised mode of cultivation additional water supplies will have to be arranged. The present intensity of the irrigation system is low round about 30% and to fully meet the irrigation requirements of mechanised farming complete overhaul of the irrigation system would be necessary and it may not be possible to attain the required percentage of intensity at the Farm unless irrigation commitments in other parts of the projects command are withdrawn or drasitcally curtailed. Predominance of black-cotton soil in the two areas is yet another handicap to intensive mechanised cultivation. Much as the Committee wished to locate at least one large State Mechanised Farm in the South, we cannot recommend any of the two areas for the purpose.

(8) **Rajasthan.**—Initially the State Government recommended two blocks of land in the command of the Rajasthan Canal. Later they increased the numebr of blocks to four—all these are in the command of the Rajasthan Canal. These four blocks occupy different places in the commanded area of the Rajasthan Canal and their distance from the main Branch of the Canal varies. One of these blocks measuring 30,854 acres is contiguous to the Suratgarh Farm. Possibilities of reaching Rajasthan Canal water to the different sites depend upon the progress of construction on Rajasthan Canal. Looking to the progress of work hitherto made on the project, the State Government have informed us that non-perennial irrigation supplies can be made available to the first site contiguous to the Suratgarh Farm from 1962 onwards. The non-perennial supplies will start from middle of June and continue till middle of September each year. The supplies will be plentiful during July and August and any quantity of water can be made available during these two months. There is little hope of continuing the non-perennial supplies during the month of October. In fact, water supplies even in the latter half of September would be satisfactory only once in two years. The Rajasthan Canal is not likely to get perennial supplies from its source earlier than 1970. Till then farming under non-perennial irrigation is possible. The State Government who were approached to arrange for perennial supplies of about 20 cusecs from Gang Canal, regretted their inability to do so. A supply of 20 cusecs was thought to be sufficient for 5,000 acres which could be sown with wheat. The only possibility to provide some perennial irrigation to the new Farm is to divert the existing supply of 15 cusecs made available to the Suratgarh Farm from Gang Canal. This was given to the Suratgarh Farm in 1958 on the express understanding

that it would be withdrawn after the Bhakra Canal becomes fully perennial towards the close of 1962. This, in our opinion, would be desirable, especially as Rajasthan Government representatives have agreed to give an additional 15 cusecs supply for Suratgarh Farm from the Bhakra system. It would involve construction of a 5-6 mile long channel at a cost of about Rs. 1·50 lakhs which will have to be borne by the Government of India. The maintenance will be taken care of by the State Government.

The land is more or less even excluding the areas under sand dunes which account for a total area of about 8,000 acres and these are spread all over the Farm area. The soil is mostly light-loam. Out of 30,854 acres an area of about 17,000 acres is already under cultivation. A major portion of these 17,000 acres is let out on annual temporary leases. The cultivated area will have to be acquired on payment of compensation to the owners/lessees to the tune of Rs. 1·70 lakhs (Rs. 1·03 lakhs towards cost of abadi, tanks, wells etc. and Rs. 0·67 lakhs towards cost of displacement). The tenants/lessees displaced from the occupied area will be allotted undeveloped land elsewhere in the same area. The compensation payable to them will have to be met by the Government of India, as was done in the case of land, etc. acquired for Suratgarh Farm. Regarding rental charges the rates settled for Suratgarh Farm may be adopted with the only difference that these be assessed on 17,000 acres initially. For the balance area the charges may be paid according as it is developed from year to year.

Considering the relative merits of the site contiguous to the Suratgarh Farm, the Committee recommend it for establishment of another Central Mechanised Farm which will need to be developed according to a phased programme spread over a number of years depending upon the availability of perennial and non-perennial water. In the initial stages, the new Farm can be run as an extension of the existing Suratgarh Farm and it should not be necessary to employ any large additional managerial staff for it. Only operational and ministerial staff to the extent necessary will have to be recruited. Nor will it be necessary to have any separate Base Workshop there, because the one at Suratgarh Farm can meet the requirements of the new Farm. The existing communicational facilities serving the farm area will need to be developed and expanded. An approach road of about three miles in length will be required to connect the Farm with the pucca Anoopgarh—Sarupsar road passing through Jetsar. This will involve an expenditure of Rs. 1·8 lakhs which will be met by the Government of Rajasthan. Besides, the existing Railway Station at Jetsar, one new Railway Station at a suitable point between Jetsar and Mohangarh should be got built through the Railway Board in due course. The existing Jetsar Railway Station will need to be expanded to permit of extra goods booking facilities. This too should

be arranged for by the Railway Board. It will also be necessary to have a net-work of pucca roads within the Farm area to facilitate movement of machinery and produce. Pucca roads in the new farm as against the Kutcha ones in the Suratgarh Farm will in the long run prove to be economical, as wear and tear of motor vehicles, etc. will be less. Also, maintenance of Pucca roads will be less expensive. The total length of internal roads within the Farm area will be about 22 miles and will cost roughly Rs. 12·00 lakhs. Two main pucca roads in Suratgarh Farm are made by Rajasthan Government under their normal programme of constructing works in the area. Till perennial supplies become available it will be necessary to put up two to three tubewells to supply drinking water to the employees of the Farm and labour force.

(9) **Madras, Uttar Pradesh, West Bengal and Kerala.**—The replies received from the States of Madras, Uttar Pradesh, West Bengal and Kerala were all in the negative. They have no suitable blocks of the required size to recommend. The Committee guided by its desire to locate big farms in different parts of country made a fresh approach to the Government of Uttar Pradesh to specially comb their districts of Pilibhit and Bahraich to locate one or two suitable blocks of the required size. The Government of Uttar Pradesh did undertake a survey of the possible areas in the two districts mentioned above, but the result was not fruitful. The possibility of utilising a large block of land in Pannagarh in West Bengal which was declared surplus to the requirements of the Ministry of Defence some years back was considered. Enquiries made from the Ministry of Defence revealed that the said block of land was no longer available.

Having made a recommendation for establishment of one new Farm on the site contiguous to Suratgarh, we now proceed in the next Chapter to submit specific proposals for the proposed Farm.

CHAPTER III

SUGGESTIONS FOR THE NEW FARM

The tract which we have recommended for the establishment of another Central Mechanised Farm extends over two tehsils, namely, Anoopgarh and Raisinghnagar of Sri Ganganagar District. A map depicting the land which will be allotted to the new Farm is enclosed (Appendix III). The area is very sparsely populated and the new Abadis that have sprung up in the area have hardly any title to be called villages. No civic amenities are available there. It will not be incorrect to treat the entire area as undeveloped. For proper layout and development of the Farm area consistent with the requirements of large-scale mechanised farming, a proper plan has to be thought of and implemented in stages. Even the few facilities that are available in Suratgarh do not exist in this area and communications are particularly non-existent.

2. The Government of Rajasthan are willing to give land for the new Farm on the same terms and conditions as have been proposed in the case of land taken over for the Suratgarh Farm. The land taken over for the Suratgarh Farm will be on lease for a period of 15 years with a provision for renewal of the lease for another fifteen years at the option of the lessee. No separate lease money is to be paid, but only land revenue, Malkhana, etc. are to be recovered at the approved rates. The total amount payable on this account will be about Rs. 1,10,000 so long as the Bhakra Canal continues to be non-perennial and will be increased to about Rs. 1,80,000 when the canal becomes perennial. In other words the maximum rent payable will be about Rs. 6/- per acre per annum. Compared to the rent charges from temporary lessees, the rent settled in the case of Suratgarh Farm land is markedly less. As in the case of Suratgarh Farm we do not recommend outright purchase of land for the new Farm. If the land were to be purchased outright the initial investment on the scheme will increase manifold and it will not be worthwhile to do so. The price of land in the area is stated to vary from Rs. 100/- to Rs. 300/- per acre. The purchase of land alone will, therefore, involve an expenditure of Rs. 100 lakhs. With a view to encouraging the State Government to take over such farms at some stage or the other say after 30 years, it would be preferable if the Central Government take over the land on lease basis rather than go in for outright purchase. We, therefore, recommend that the land for the new Farm should be taken on lease for a period of 30 years in the first instance.

The period of lease may be extended in the light of conditions then obtaining.

3. The land development and cultivation programme at the new Farm has necessarily to be phased over a number of years. On the basis of perennial supplies for 2,500 acres to be diverted from the Suratgarh Farm and non-perennial supplies to be made available from Rajasthan Canal it should be possible to tackle an area of 10,000 acres in the first year of operation of the Farm and in the 2nd year area can be increased to 12,500 acres. A tentative cropping programme for the first two years is indicated in Appendix IV. It may be modified after results of detailed soil analysis, which we strongly recommend, are made known. This may also have to be adjusted to suit the quantum of non-perennial irrigation, especially during the Rabi season. A tentative cropping pattern for the entire cultivable area under perennial irrigation is also outlined in Appendix IV. The proposed cropping pattern will make for maximum use of the machinery and irrigation supplies. In order to make full use of the perennial supply during the months of March, April and May, a small percentage of the area has been suggested for cash crops like Cotton and Sugarcane right from the 2nd year onwards. On the basis of the assurances given by the State Government, it should be possible to start cultivation operations in June, 1962.

4. Good deal of initial planning work will have to be done before actual farming operations could start in Kharif, 1962, apart from construction of essential buildings. Keeping this in view, we recommend that a Project Officer in Class I Senior Scale of pay with nucleus staff should be appointed as early as possible and in any case not later than March, 1961. It would be of great advantage if the Project Officer could be one having practical experience of working in large mechanised Farms with knowledge of local conditions.

5. The requirements of machinery and equipment for the new Farm have to be related to the proposed cropping patterns and the nature of land development work required to be done in the area. Keeping in view these considerations and the generally accepted formula of 1 H.P. for 5 acres cultivation, the requirement of machinery and equipment for the new Farm has been drawn and details are given in Appendix V. The items of machinery which can be transferred from the existing stock of machinery from the Suratgarh Farm are also given. The cost of the equipment has been estimated on the basis of the prices quoted for similar machinery obtained or received as gift for the Central Mechanised Farm, Suratgarh. At the new Farm it would be a good idea to obtain similar machinery because it would mean an over-all economy in spares and flexibility in exchange of equipment available at the existing Farm and that proposed to be purchased for the new Farm. Also

the Base Workshop being completed at Suratgarh will be able to undertake major overhaul and repairs of this type of equipment. The total cost of the machinery and equipment required to be purchased for the new Farm will be Rs. 66 lakhs in round figures. In course of time it will be necessary to replace items of machinery going out of use due to normal wear and tear for which necessary provision has to be made at the appropriate time.

6. The building programme for the new farm will require to be phased in keeping with its over-all development programme. The building programme suggested for the new Farm along with its phasing is outlined in Appendix VI. Buildings shown in 1st year should be ready by April, 1962. In according priorities to various works for actual execution the non-residential buildings have been assigned a higher place as compared to the residential ones. The total outlay on the building programme for the new Farm will be of the order of Rs. 130·50 lakhs inclusive of the departmental charges which have been worked out at 16 per cent of the total outlay on works. Excluding the departmental charges the total outlay on residential component of the building programme works out to Rs. 51·39 lakhs and that on the non-residential component to Rs. 60·90 lakhs. The plinth areas proposed for various types of residential quarters are those based on the latest austerity standard fixed by the Government of India for provision of houses in various projects in the Public Sector. These differ slightly from those adopted for similar or comparable types of quarters built at Suratgarh. Looking to the extreme climatic conditions in this sandy region of Rajasthan we feel that the plinth area *viz.* 400 sq. ft. as against 475 sq. ft. adopted earlier for the pay group of Rs. 60–150/- is considered to be rather low. We suggest that it may be raised a little so that the living accommodation may be enough for a family of an average size. Quite a sizeable number of operational and ministerial staff will be entitled to this type of quarters, because the type-wise distribution of quarters has been done on the basis of minimum of the pay scale. The same procedure was adopted while determining the types of quarters for various pay scales obtaining at Central Mechanised Farm, Suratgarh.

7. The building programme recommended by us provides for a network of pucca roads covering a length of 22 miles which would cost Rs. 12 lakhs. We consider it might be possible to bring about some appreciable saving in the outlay on internal communications by substituting pucca roads by rail-track of 1½ ft. width. In that case it will be necessary to purchase some 6-7 trolleys with two Diesel-Driven Locomotives which would in turn replace some transport vehicles. We recommend that the economics of laying a rail-track *vis-a-vis* pucca roads may be examined in detail in consultation with the experts of the Railway Board.

8. The C.P.W.D., in our opinion, has taken a long time in execution of the various works at the Central Mechanised Farm, Suratgarh. This

is because C.P.W.D. did not have any organisation in the area. On the other hand Rajasthan Canal Administration are now setting up an organisation. We, therefore, recommend that the construction of buildings, roads, etc. in the new Farm be entrusted to the Rajasthan Canal Project Administration who have agreed to undertake it on the basis of the State P.W.D. (B. & R.) Rules. The Project Administration may be paid the usual departmental charges which should not exceed departmental charges of the C.P.W.D.

9. The requirements of staff for the new Farm as shown in Appendix VII are based on the phased cultivation programme outlined in Appendix IV. Further, they generally conform to the organisational set-up obtaining in the Central Mechanised Farm, Suratgarh. In consideration of the paramount need for economy without impairing general efficiency, slight changes have been made at the Officers' level. In regard to the operational staff we would strongly recommend a training programme being undertaken at Suratgarh in agricultural operations of Rabi 1961 so that trained personnel are available for the new farm when operations are started in June 1962. This would mean appointment of a nucleus operational staff some months in advances of June, 1962.

10. A rough idea of the financial results expected at the new farm under (i) with partial perennial irrigation and (ii) with perennial irrigation could be had from the statistics furnished in Appendix VIII. It is expected that the farm will start yielding profits right from the close of the first year of its working. The margin of profit is not likely to increase so long as the non-perennial supplies continue. It will go up appreciably when perennial supplies become available.

11. To sum up, from among the proposals received from the States not many blocks have the necessary facilities. For this reason the Committee has not been able to suggest many sites. It sees immediate prospects of starting farms in the State of Rajasthan. This does not, however, mean that all efforts to locate such blocks in other parts of the country, especially in the South, should not be encouraged. It is also our impression that States have not yet fully appreciated the advantages of having large-sized State mechanised farms and due attention and thought has not been devoted to this important matter by them. A further effort should be made after new areas of wastelands are opened up on completion of major irrigation projects that may be launched in the Third Five Year Plan.

12. We recommend that a new farm may be set up in the area proposed in the Anupgarh and Raisinghnagar tehsils of Sri Ganganagar district in Rajasthan. This recommendation of ours is based on such important considerations as (i) ready availability of land involving little of heavy reclamation work, (ii) immediate prospects of supply of irrigation and (iii) proximity of the site to the Central Mechanised Farm,

Suratgarh. The sites suggested in other States do not compare favourably with the one recommended by us, if the three important considerations mentioned above are taken into account.

13. The delay in submission of the report is principally due to the long time taken by the States in furnishing the data and clarifying such issues as were raised by the Committee.

14. The Chairman would like to place on record his thanks for the cooperation extended to the Committee in its work by Shri Joginder Singh, M.P. and others associated with it as Members. In particular, the association of Maj. Genl. Thakur Mahadeo Singh, D.S.O., General Manager, Central Mechanised Farm, Suratgarh has been of great help to the Committee because of his intimate and first-hand knowledge of the working of the Suratgarh Farm, the biggest farm of its type ever set up in the country. The Committee thanks Shri Mahavir Prasad, Irrigation Adviser of the Department of Agriculture for his valuable work in connection with the examination of the various proposals sent by the States and in analysing their respective merits. Shri Mahavir Prasad also acted as the Secretary of the Committee and enabled it to obtain the necessary materials from the States by personal contacts. The Committee also places on record its appreciation of the secretarial assistance rendered to it by the Farms Section of the Department of Agriculture.

Sd/- K. R. Damle.
Sd/- Joginder Singh M.P.
Sd/- P. S. Lokanathan.
Sd/- Kanwar Sain.
Sd/- Nawab Singh.
Sd/- J. S. Patel.
Sd/- Mahadeo Singh.

New Delhi:
March, 1961.

APPENDIX I

Government of India

MINISTRY OF FOOD & AGRICULTURE

(Department of Agriculture)

New Delhi, the 5th August, 1959.

MEMORANDUM

The Government of India have decided to constitute a Committee to examine the possibility of setting up of more mechanised Farms on the lines of the Suratgarh Farm with the following members:

Chairman

(1) Shri K. R. Damle, Secretary, Department of Agriculture, Ministry of Food & Agriculture.

Members

(2) Shri Joginder Singh, Member Parliament.

(3) Shri Kanwar Sain, Administrator, Rajasthan Canal.

(4) Dr. B. N. Uppal, Agricultural Commissioner, I.C.A.R.

(5) Maj. Genl. T. Mahadeo Singh, General Manager, Central Mechanised Farm, Suratgarh (Rajasthan).

(6) Dr. P. S. Lokanathan, Director General, National Council of Applied Economic Research, New Delhi.

(7) Shri Nawab Singh, Adviser, Planning Commission.

The terms of reference will be:—

(i) to consider in detail the economics of operation of State-owned mechanised farms in the light of the experience obtained in the case of Suratgarh Farm, taking into account all the relevant factors such as the cost of machinery, development of land, construction of essential buildings, running expenses etc;

(ii) to submit proposals for the setting up of new State farms, taking into account the availability of land and irrigation facilities, giving separate financial forecast for seasonal and perennial irrigation;

(iii) to consider any other relevant matter that might be placed by the Government of India before the Committee.

The Committee will start functioning as early as possible and submit its report within a period of three months from the date it commences its work.

Sd/- S. Mullick
Joint Secretary to the Govt. of India.

To

All Members of the Committee.

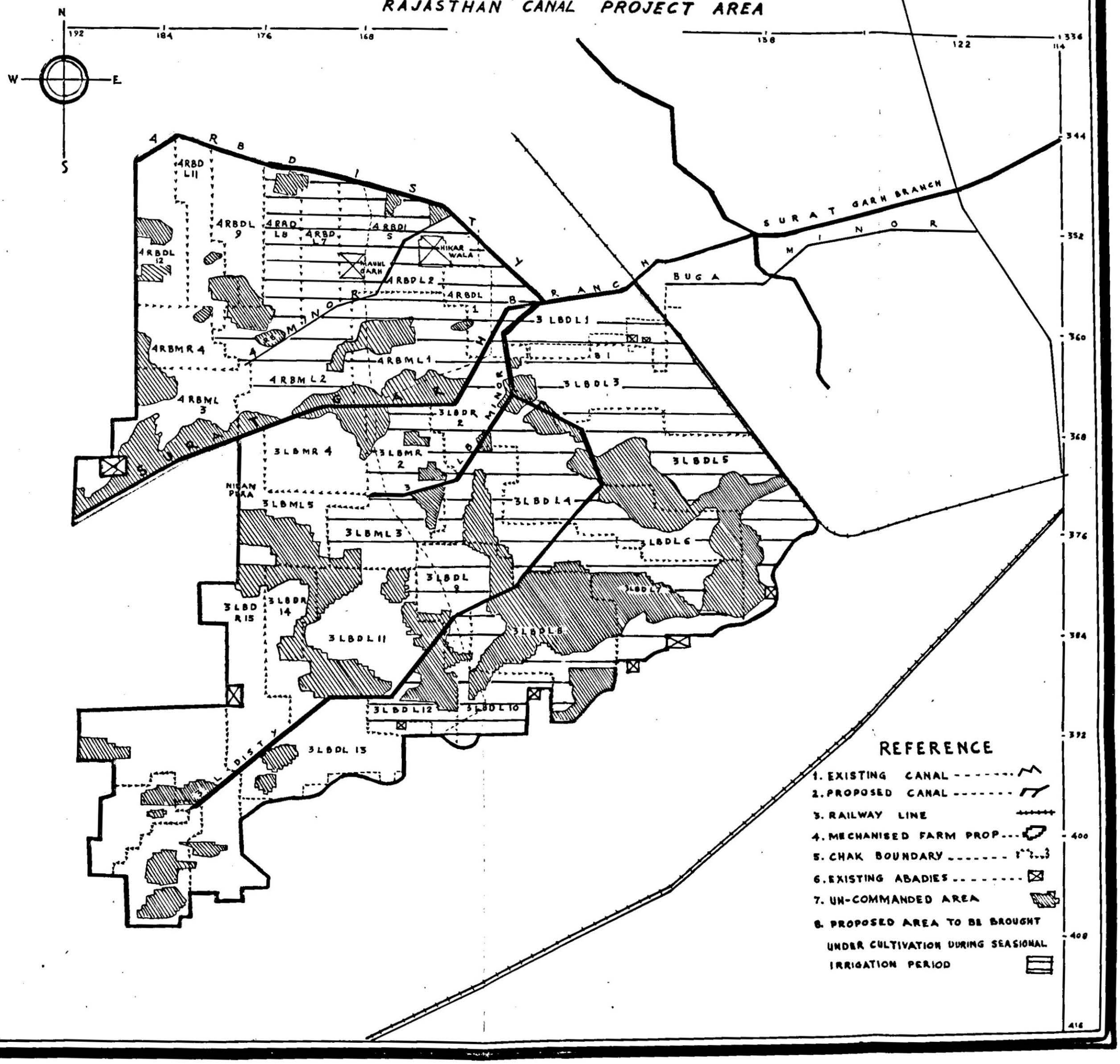
APPENDIX II

DETAILS OF RUNNING EXPRENSES OF THE CENTRAL MECHANISED FARM SURATGARH ON FULL DEVELOPMENT

	Rs. (in lakhs)
1. Pay & Allowances of Officers & Staff	12·00
2. Labour	6·00
3. Petrol, Oil and Lubricant	6·00
4. Spare parts	3·00
5. General Stores	1·60
6. Seeds	2·00
7. Manure & Insecticides	1·00
8. Land Revenue	1·80
9. Gunny Bags	0·50
10. Customs Duty	0·70
11. Miscellaneous Office contingency	1·00
TOTAL	35·60

MECHANISED FARM Nº 1

RAJASTHAN CANAL PROJECT AREA



APPENDIX IV

CROPPING PROGRAMME FOR THE PROPOSED MECHANISED FARM AT JETSAR AND ITS ESTIMATED INCOME

Conditions

1. Seasonal supplies of irrigation will be available from middle of June to middle of September.

2. 15 cusecs of perennial supply of irrigation will be available from the very first year.

FIRST YEAR—10,000 ACRES

Crops under Seasonal				Crops under Perennial			
Kharif		Rabi		Kharif		Rabi	
	ac				ac		ac
Bajra .	2500	..	...	Bajra .	500	Mustard .	1500
E. Maize .	1000	..	..	E. Paddy .	500	Gram .	500
E. Paddy .	500	..	..			Wheat .	2000
Til, Ground nut & Guar for seed .	1000	..	..				
	5000				1000		4000

INCOME

(i) Kharif Crops	Area	Yield per acre	Total Yield in mds.	Rate per maund	Amount Rs.
1 2	3	4	5	6	7
1. Bajra	3000	10	30,000	14/-	4,20,000
2. E. Maize . .	1000	15	15,000	12/-	1,80,000
3. E. Paddy . .	1000	15	15,000	12/-	1,80,000
4. Til, Ground-nut and Guar for seed . ..	1000	5—10	5,000(—) 10,000(—)	30/-(—) 15/-(—)	1,50,000
	6,000				9,30,000

1	2	3	4	5	6	7	
(ii) Kharif Fodder							
1.	Bajra Karbi	3000	30	90,000	1/-	90,000	
2.	Maize Karbi	1000	20	20,000	1/-	20,000	
3.	Paddy straw	1000	15	15,000	0·50	7,500	
						1,17,500	
(iii) Rabi crops							
1.	Mustard	1500	8	12,000	25/-	3,00,000	
2.	Gram	500	10	5,000	12/-	60,000	
3.	Wheat	2000	15	30,000	15/-	4,50,000	
						8,10,000	
				TOTAL INCOME			Rs. 18,57,500

SECOND AND SUBSEQUENT YEARS—12,500 ACRES

Seasonal				Perennial			
Kharif		Rabi		Kharif		Rabi	
	ac				ac		ac
1. Bajra	3000	..	..	1. Sugarcane	200	Mustard	1500
2. E. Maize	1000	..	..	2. Cotton	300	Gram	500
3. E. Paddy	1000	..	..	3. Bajra	500	Wheat	2000
4. Til, Ground-nut and Guar for Seed	1000	..	..	4. Green manuring	1000		
				S.E. Paddy	500		
	6000				2500		4000

INCOME

	Area	Yield per ac	Total yield in mds.	Rate per maund	Amount Rs.	
(i) *Kharif Crops*						
1. Bajra	3500	10	35,000	14/-	4,90,000	
2. E. Maize	1000	15	15,000	12/-	1,80,000	
3. E. Paddy	1500	15	22,500	12/-	2,70,000	
4. Til, Goroundnut & Guar for seed	1000	5/10	5000/ 10000	30/- 15/-	1,50,000	
5. Sugarcane	200	800	1,60,000	1/50	2,40,000	
6. Cotton	300	8	2,400	35/-	84,000	
						14,14,000
(ii) *Kharif Fodder*						
1. Bajra Karbi	3500	30	1,05,000	1/-	1,05,000	
2. Maize Karbi	1000	20	20,000	1/-	20,000	
3. Paddy straw	1500	15	22,500	0·50	11,250	
						1,36,250
(iii) *Rabi Crops*						
1. Mustard	1500	8	12,000	25/-	3,00,000	
2. Gram	500	10	5,000	12/-	60,000	
3. Wheat	2000	15	30,000	15/-	4,50,000	
						8,10,000
				TOTAL INCOME		23,60,250

ELEVENTH YEAR—21,000 ACRES

Condtion

Perennial supplies of irrigation will be available for the whole Farm area

Kharif	acres	Rabi	acres	Total acres
1. Bajra.	1000	1. Wheat	10,000	
2. Maize	1000	2. Gram	500	
3. Paddy	1000.	3. Mustard & Toria	3.500	
4. Cotton	500			
5. Sugarcane	500			
6. Green Manuring	3000			
	7000		14,000	21,000

INCOME

	Area Ac	Yield mds	Total Yield mds	Rate per mds	Amount Rs.	Total Rs.
(i) Kharif Crops						
1. Bajra	1000	15	15,000	14/-	2,10,000	
2. Maize	1000	20	20,000	12/-	2,40,000	
3. Paddy	1000	20	20,000	15/-	3,00,000	
4. Cotton	500	8	4,000	35/-	1,40,000	
5. Sugarcane	500	650	325,000	1/50	4,87,500	
(newly planted—800 mds per acre Ratoon —500 mds per acre)						13,77,500
(ii) Kharif Fodder						
1. Bajra Karbi	1000	40	40,000	1/-	40,000	
2. Maize Karbi	1000	25	25,000	1/-	25,000	
3. Paddy Straw	1000	20	20,000	0·50	10,000	
						75 000
(iii) Rabi Crops						
1. Wheat	10,000	20	2,00,000	15/-	30,00,000	
2. Gram	500	15	7,500	12/-	90,000	
3. Mustard & Toria	3,500	12	42,000	25/-	10,50,000	
						41,40,000
				GRAND TOTAL		55 92,500

APPENDIX, V

PHASED REQUIREMENT OF MACHINERY

Sl. No.	Description of Machinery	Unit price	1st Year		2nd Year		3rd to 10th Year		11th Year		Total by the end of 11th year	Remarks
			No.	Amount	No.	Amount	No.	Amount	No.	Amount		
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs.		Rs.		Rs.		Rs.		Rs.		
1	Tractor Chain Type S-80 80 H.P.	50,000	6	3,00,000	..	..	..	..			6	6 Nos. S-80 tractors will be transferred from CMF, Suratgarh in 1st year.
2	Tractor Chain Type DT-54 54 HP	30,000	5	1,50,000	..	..	..	..			5	5 Nos. Do.
3	Tractor Wheel Type (4 wheel drive) 35 drawbar H.P.	14,000	27	3,78,000	11	1,54,000	..	..	39	5,46,000	77	
4	Motor Grader . . .	38,000	1	38,000	..	..	..	..			1	
5	Bowzer for transporting diesel	60,675	3	1,82,025	..	..	..	..	2	1,21,350	5	
6	Water tankers app. 800 Glns. capacity.	6,500	3	19,500	..	..	..	..	2	13,000	5	
7	Mobile Crane 15-ton capacity	1,20,000	1	1,20,000	..	..	..	..	..	..	1	
8	Trucks (a) 2½-3-ton capacity .	24,000	5	1,20,000	2	48,000	..	..	3	72,000	10	
	(b) 5-ton capacity . .	35,000	4	1,40,000	1	35,000	..	..	5	1,75,000	10	

1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs.		Rs.		Rs.				Rs.		
9	Light Vehicles (a) Jeep	14,000	3	42,000	2	28,000	..	..	2	28,000	7	
	(b) Station Wagon	18,000	1	18,000	..	..	..	..	1	18,000	2	
10	Low bed diesel tractor trailor 25-ton capacity.	1,50,000	1	1,50,000	..	..	..	..	1	1,50,000	2	
11	Trolly 5-ton capacity	4,000	6	24,000	..	..	..	..	9	36,000	15	
12	*Workshop Equipment*:											
	(i) Lathe	10,000	3	30,000	..	..	..	..	3	30,000	6	
	(ii) Drill	3,000	3	9,000	..	..	..	..	3	9,000	6	
	(iii) Generator diesel operated	20,000	3	60,000	..	..	..	..	..	..	3	
	(iv) Compressor diesel	8,000	1	8,000	..	..	..	..	5	40,000	6	Electrically fitted after 10 years.
	(v) Electric welding set	7,000	3	21,000	..	..	..	..	3	21,000	6	
	(vi) Gas welding set	2,000	3	6,000	..	..	..	..	3	6,000	6	
	(vii) Blacksmith-*cum*-carpenter equipment set.	3,500	4	14,000	..	..	..	..	4	14,000	8	
	(viii) Battery Charger	2,000	1	2,000	..	..	..	..	5	10,000	6	
	(ix) Tools grinding machine	1,000	3	3,000	..	..	..	..	3	3,000	6	
	(x) Valve lapping machine	3,250	1	3,250	..	..	..	..	..	..	1	
	(xi) Electric equipment testing stand.	3,700	1	3,700	..	..	..	..	..	..	1	

(xii) Harvester combine repair stand and tools	2,100	1	2,100	..	..	..	..	1	2,100	2	
(xiii) Oil pump testing stand	6,700	1	6,700	..	..	..	..	..	..	1	
(xiv) Stand for equalising fans.	2,300	1	2,300	..	..	..	..	..	..	1	
(xv) Complete set of tools for assembling and dismantling of tractors	2,500	4	10,000	..	..	..	..	4	10,000	8	
(xvi) Set of tools for Mechanics	200	14	2,800	..	..	..	..	16	3,200	30	
(xvii) Set of tools for valve seat cutting and grinding	4,000	1	4,000	..	..	..	..	..	..	1	
(xviii) Spring testing machine	400	1	400	..	..	..	..	..	..	1	
(xix) Injector testing machine	150	1	150	..	..	..	..	..	..	1	
(xx) High pressure pump for washing machinery	1,100	3	3,300	..	..	..	..	3	3,300	6	
(xxi) Hand Crane	4,000	3	12,000	..	..	..	..	2	8,000	5	(Will be manufactured in CMF, Suratgarh workshop).
(xxii) Radiator testing stand	4,300	1	4,300	..	..	..	..	..	..	1	
(xxiii) 100-ton hydraulic press	15,800	1	15,800	..	..	..	..	..	..	1	
(xxiv) 20-ton hydraulic press	5,000	1	5,000	..	..	..	..	..	..	1	

1	2	3	4	5	6	7	8	9	10	11	12	13
	(xxv) *Vehicle Servicing Station*:	Rs.		Rs.		Rs.				Rs.		
	(*a*) Hydraulic lift	10,000	1	10,000	..	..	..	..	..	..	1	
	(*b*) Compressor	2,000	1	2,000	..	..	..	..	..	..	1	
	(*c*) High pressure pump	1,100	1	1,100	..	..	..	..	..	..	1	
	(*d*) Lubricating Unit	600	1	600	..	..	..	..	..	..	1	
	Agriculture Machinery:											
	(i) Dozer attachment	7,000	3	21,000	..	..	..	..	2	14,000	5	
	(ii) Ditcher attachment	23,514	2	47,028	..	..	..	..	1	23,514	3	
	(iii) Scraper tractor driven 10 Cyds. cap.	10,000	1	10,000	..	..	..	..	..	..	1	
	(iv) Plow M. B. 4 bottom hydraulically operated	4,000	5	20,000	..	..	..	..	..	..	5	
	(v) Plow M. B. 3 bottom hydraulically operated.	3,000	18	54,000	..	..	..	..	7	21,000	25	
	(vi) Disc.plow 3 Disc.	4,000	10	40,000	..	..	..	..	15	60,000	25	
	(vii) Offset Harrow	3,500	24	84,000	8	28,000	..	..	28	98,000	60	
	(viii) Cultivator for inter-cultivation	2,200	3	6,600	..	..	..	..	2	4,400	5	
	(ix) Maize planter	1,850	3	5,550	..	..	..	..	..	..	3	
	(x) Cotton planter	2,900	..	..	1	2,900	..	..	2	5,800	3	
	(xi) Seed Drills knife type single row planting	3,500	6	21,000	..	..	..	..	9	31,500	15	(In first year 6 can be spared from Suratgarh.)

(xii) Seed Drill disc type single row planting	3,500	15	52,500	..	..	..	..	10	35,000	25	15 Nos do.
(xiii) Zigzag Harrow	500	15	7,500	..	..	..	..	15	7,500	30	Can be spared from Suratgarh.
(xiv) Roller or clod crusher .	1,500	6	9,000	..	..	..	..	9	13,500	15	In 1st year 6 sets can be spared from Suratgarh.
(xv) Ridgers . . .	2,500	..	..	2	5,000	..	..	3	7,500	5	
(xvi) Land levellors . . .	2,500	6	15,000	..	..	..	..	4	10,000	10	
(xvii) Hole angers .	1,500	1	1,500	..	..	..	..	1	1,500	2	
(xviii) Harvester combine self propelled diesel drives											
(a) Big . . .	50,000	4	2,00,000	..	..	..	..	26	13,00,000	30	
(b) Small . . .	35,000	2	70,000	..	..	..	..	8	2,80,000	10	
(xix) Cultivator Model KP-4—M	3000	9	27,000	..	..	..	..	11	33,000	20	Can be spared from Suratgarh.
(xx) Root Cutter . .	4,000	1	4,000	..	..	..	..	1	4,000	2	
(xxi) Maize cob sheller & cob crusher set.	6,000	2	12,000	..	..	..	..	..	..	2	
(xxii) Winnowing Machine	7,000	6	42,000	..	..	..	..	9	63,000	15	
(xxiii) Wooden sohagas .	100	24	2,400	8	800	..	..	28	2,800	60	
TOTAL .			26,76,103		3,01,700				33,40,964		
Railway freight custom duty and other clearing charges. .			1,23,897		8,300				1,49,036		
Grand Total:			28,00,000		3,10,000				34,90,000		
								Total cost of machinery		Rs.	66,00,000

APPENDIX VI

Phased requirement of Non-residential buildings for proposed Central Mechanised Farm at Jetsar (Rajasthan)

Sl. No.	Description of Building	Plinth area in sq. ft.	Unit cost of construction	1st year of construction *i.e.* 1961-62		2nd year of construction *i.e.* 1962-63		11th year when the whole perennial supply is available		Remarks
				No. of Bldgs.	Amount	No. of Bldgs.	Amount	No. of Bldgs.	Amount	
1	2	3	4	5	6	7	8	9	10	11
					Rs.		Rs.		Rs.	
1	Central Running Repair Shop	6,500	1,65,000	1	1,65,000	..	..	..	..	
2	Block Repair Shop	1,200	25,000	2	50,000	..	..	2	50,000	
3	Service Stations	964	27,000	1	27,000	..	..	4	1,08,000	
4	Petrol Oil & Lubricant Ramp	3,400	11,000	1	11,000	..	..	4	44,000	
5	Combine and Implement Shed	2,500	50,000	3	1,50,000	..	..	2	1,00,000	
6	Shed for seed drills & winnowing machine	2,000	40,000	3	1,20,000	..	..	2	80,000	
7	Tractor & Vehicle Sheds	4,000	80,000	3	2,40,000	..	..	2	1,60,000	
8	Central Stores (Mechanical)	4,048	80,000	1	80,000	..	..	..	..	
9	Central Stores (Agiculture & Plant Protection)	3,000	60,000	1	60,000	..	..	..	..	
10	Block Stores	2,000	40,000	3	1,20,000	..	..	2	80,000	

1	2	3	4	5	6	7	8	9	10	11
11	Grain godown and thrashing floor	9,000	1,80,000	3	5,40,000	..	..	3	5,40,000	
12	Central Office	5,000	85,000	1	85,000	..	..	..	..	
13	Block Office	500	8,500	3	25,500	..	..	2	17,000	
14	Hospital for six beds	2,000	40,000	..	..	1	40,000	L.S.	40,000	(Addition to be made in existing hospital).
15	Post and Telegraph Office	500	10,000	..	..	1	10,000	L.S.	5,000	(Addition to be made in existing P. & T. Office).
16	Primary School for Centre	1,000	15,000	..	..	1	15,000	..	..	
17	Primary School for Block	500	7,500	..	..	1	7,500	2	15,000	
18	Secondary School for Centre	4,000	60,000	..	..	1	60,000	..	..	
19	(*a*) Rest House	5,000	75,000	1	75,000	..	..	..	..	
	(*b*) Kitchen Block & Out-houses for above	1,500	25,000	1	25,000	..	..	..	..	
	(*c*) Furniture for Rest House	L.S.	10,000	L.S.	10,000	..	..	..	..	
20	(*a*) Field Hostel	2,000	40,000	..	..	1	40,000	..	..	
	(*b*) Furniture for above	L.S.	5,000	..	..	L.S.	5,000	..	..	
21	Community Centre	500	10,000	2	20,000	..	..	2	20,000	
22	Labour Sheds	600	7,200	10	72,000	5	36,000	10	72,000	
23	Shop Sheds with residential accommodation	400	6,000	8	48,000	8	48,000	4	24,000	

1	2	3	4	5	6	7	8	9	10	11
24	Pucca roads in Centre and blocks . . .	per mile	60,000	3 miles	1,80,000	..	..	2 miles	1,20,000	
25	External services for lights	per block	50,000	2	1,00,000*	..	..	2	1,50,000	*50,000 for central block 25,000/- for each block.
26	Sanitary disposal Central Block	L.S.	50,000	..	..	L.S.	50,000	..	..	
27	Sanitary disposal other blocks	L.S.	30,000	..	..	2	60,000	2	60,000	
28	Drainage system . .	L.S.	10,000	..	..	1	10,000	L.S. 2	20,000	
29	Water supply . . .	L.S.	1,50,000	..	1,50,000	..	..	L.S.	50,000**	**In 2 blocks.
30	Tubewells . . .	L.S.	30,000	2	60,000*	3	60,000	..	..	*3 trialboring @ 10,000 each of which one will be successful &cost of pump & engine 30,000 each year.
31	Farm Minor for 15 Cs. supply . . .	L.S.	1,50,000	L.S.	1,50,000	..	..	..	..	
32	External Roads . .	per mile	60,000	3 miles	1,80,000	..	..	20 miles	12,00,000	
					27,43,500		4,41,500		29,05,000	
	TOTAL									Total—60,90,000

N.B.—Jetsar Farm will take advantage of the Base Workshop at Suratgarh.

Phased cost of Residential Buildings for the Proposed Central Mechanised Farm at Jetsar (Rajasthan)

Sl. No.	Description of buildings	Plinth area in sq. ft.	Unit cost of construction	1st year of construction		2nd year of construction		11th year when the whole perennial area is available		Remarks
				No. of buildings	Amount	No. of buildings	Amount	No. of Bldgs.	Amount	
1	2	3	4	5	6	7	8	9	10	11
1	Type VI Qrs. above Rs. 1 500 p.m.	sq. ft. 2100 +240 +225 for servant and garrage= 2665	38,500	..	..	..	..	..	38,500	
2	Type V Qrs. Rs. 751—1500 p.m.	1500	22,500	2	45,000	2	45,000	..	..	
3	Type IV Qrs. Rs. 301—750 p.m.	900	13,500	10	1,35,000	..	..	5	67,500	
4	Type III Qrs. Rs. 151—300 p.m.	600	9,000	40	3,60,000	4	36,000	37	3,33,000	
5	Type II Qrs. Rs. 150 p.m.	400	6,000	128	7,68,000	29	1,74,000	136	10,56,000	
6	Type I Qrs.	365	5,600	77	4,31,200	12	67,200	99	5,54,400	
7	Internal servicing (Electricity)	17,21,200	@12½%	..	2,17,400	@12½%	40,300	@12½%	2,56,200	
8	Internal servicing (Sanitation)	17,21,200	@12½%	..	2,17,400	@12½%	40,300	@12½%	2,56,200	
	Total—Non-Commercial buildings				21,74,000		4,02,800		25,61,800	=51,38,600
	Total—Commercial buildings				27,43,500		4,41,500		29,05,000	=60,90,000
	GRAND TOTAL				49,17,500		8,44,300		54,66,800	=112,28,600
	Say				49,25,000		8,50,000		54,75,000	=112,50,000
	Add Departmental Charges @ 16% of the total outlay									18,00,000
										1,30,50,000

APPENDIX VII

Phased Requirements of Staff for Proposed Central Mechanised Farm at Jetsar (Rajasthan)

Sl. No.	Particulars		1st. year	2nd. year	11th year	Total	Remarks
1	2		3	4	5	6	7
		Rs.					
1	General Manager	1800	..	..	1	1	
2	Agronomist . .	1100—1400	..	1	..	1	
3	Agri. Officer .	700—1250	1	..	..	1	
4	Div. Engineer .	700—1250	..	1	..	1	
5	Astt. Mech. Engineer .	350—900	1	..	..	1	
6	Asstt Engr. (Irri.) .	350—900	..	..	1	1	
7	Farm Supdt. . .	400—950	..	..	1	1	
8	Administrative Officer	620—900	1	..	..	1	
9	Accounts Officer . .	590—900	1	..	..	1	(Rs 590—900) if taken on deputation
10	Stores Officer . .	400—950	1	..	..	1	
Operational Staff							
11	Senior Agri. Asstt. .	325—575	4	..	2	6	1 for Plant Protection.
12	Junior Agri. Astt. . .	210—425	7	..	2	9	
13	Chargeman . . .	250—425	3	..	2	5	
14	Asstt. Chargeman .	168—256	..	..	5	5	
15	Mechanics . . .	150—240	9	..	11	20	
16	Tractor Drivers . .	140—175	27	9	30	66	
17	Mate Grade I . .	110—131	10	2	10	22	
18	Mate Grade II . .	70—85	24	..	21	45	1 with each mechanic, 5 in each block, 4 for servicing and 1 for pump in each block.
19	Grader Operator . .	150—240	1	..	..	1	
20	Fieldman . . .	110—180	26	6	52	84	In non-perennial one Fieldman for 400 acres and in perennial 1 for 250 acres.
	Agri. Mate . . .	70—85	26	6	52	84	
22	Surveyor . . .	150—240	1	..	..	1	
23	Overseer . . .	180—380	1	..	..	1	

1	2		3	4	5	6	7
Workshop Staff							
1	Foreman	350—475	1	..	..	1	
2	Asstt. Chargeman	168—256	1	..	1	2	
3	Mechanics	150—240	4	..	4	8	
4	Jr. Mechanics	140—175	1	..	1	2	
5	Crane Operator	125—155	1	..	1	1	
6	Mate II trainee	70—85	4	..	4	8	
7	Electrician	125—155	2	1	3	6	
8	Machineman	110—131	3	..	3	6	
9	Welder	125—155	3	..	3	6	
10	Generator attendant	110—131	3	..	3	6	
11	Truck Driver	110—139	12	3	10	25	
12	Jeep Driver	110—139	4	2	3	9	
13	Painter	110—131	1	..	..	1	
14	Upholsterer	140—175	1	..	..	1	
15	Carpenter-*cum*-Blacksmith	110—131	3	..	3	6	
Office Staff							
1	Office Supdt.	350—475	1	..	..	1	
2	Head Clerk	210—320	..	1	1	2	
3	Commercial Acctt.	270—575	1	..	..	1	
4	Divisional Acctt.	270—575	..	..	..	1	For internal cheking of Blocks accounts.
5	Stenographer	130—330	1	1	2	4	
6	Asstt. Statistician	210—320	1	..	..	1	
7	Upper Div. Clerk	130—300	8	2	6	16	
8	Lower Div. Clerk	110—180	26	5	15	46	
9	Asstt. Storekeeper	205—280	1	..	1	2	
10	Asstt. Storekeeper (Agri.)	205—280	1	..	..	1	
11	Binkeeper	110—180	2	..	2	4	
12	Fieldman Store	110—180	3	..	2	5	
13	Security Supervisor	250—380	1	..	..	1	
14	Head Guard	75—95	3	..	3	6	
15	Guards	70— 85	18	6	18	42	
16	Daftri	75—85	1	..	1	2	
17	Farrash	70—85	1	..	..	1	

APPENDIX VIII

Finaucial Forecast for the New Farm at Jetsar

Sl. No.	Particulars	1st Year Rs. in lakhs	2nd Year Rs. in lakhs	11th Year Rs. in lakhs	Remarks
		With partial perennial irrigation		With perennial irrigation	
1	Pay of Officers and Staff	4·31	5·30	11·04	
2	Other charges (Labour, Petrol Oil and Lubricant and stores Misc. etc.)	8·81	9·15	20·72	
3	Depreciation on Machinery equipment including custom duty freight @ 10%	2·80	3·11	6·60	
4	Depreciation on Tents and tarpauline ponies @ 10%	0·05	0·07	1·16	
5	Depreciation on building @ 2-1/2%	1·42	1·67	3·26	
6	Interest on capital	3·19	3·65	7·04	
7	Audit charges	0·04	0·05	0·08	
8	Proportionate share of reclamation for 10,000 acres in 1st year, 12,500 acres in 2nd year and 21,000 acres in 11th year.	0·27	0·33	0·56	
		20·89	23·33	50·46	
	Less reclamation charges capitalised charged off in 15 years @ 40/- per acre for 10,000 acres in 1st year, 2.500 acres in 2nd year and 8,500 acres in 11th year.	4·00	1·00	3·40	
		16·89	22·33	47·06	
	Income from produce	18·57	23·60	55·92	
	NET PROFIT	1·68	1·27	8·86	

N.B.—Net profit during the 2nd year is less because non-perennial area has increased by 50% while the perennial area has remained constant.

GMGIPND—L—201 F.A—5-4-61—1,000

SECOND

REPORT

OF THE

COMMITTEE ON LARGE-SIZED MECHANISED FARMS

GOVERNMENT OF INDIA

MINISTRY OF FOOD & AGRICULTURE
(DEPARTMENT OF AGRICULTURE)
NEW DELHI

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CHAPTER I

Introduction

The Committee, in its First Report submitted to the Government of India in March, 1961, examined in all fifteen sites suggested by the States of Bombay, Bihar, Orissa, Punjab, Mysore, Madhya Pradesh, Andhra Pradesh and Rajasthan and from amongst these recommended one site proposed by the Government of Rajasthan in the command of Rajasthan Canal quite close to the existing Central Mechanised Farm, Suratgarh for setting up of a large-sized Mechanised Farm.

2. Summing up its recommendations in para 11 of Chapter III of the First Report, the Committee observed that in its opinion the States had not fully appreciated the advantages of having large-sized mechanised farms and had not given due attention and thought to this important matter. The Committee, therefore recommended that further efforts should be made to locate suitable sites for establishment of such farms after new areas are opened up on completion of major irrigation projects.

3. In pursuance of the above recommendation of the Committee, the Ministry of Food & Agriculture addressed the States of Andra Pradesh, Bihar, Kerala, Maharashtra, Madras, Mysore, Orissa, Punjab and West Bengal in April, 1961, to conduct fresh surveys with a view to locating blocks of land of the size of 10,000 acres or more answering the following essential requirements for setting up of large-sized State Farms :—

(a) adequate irrigation facilities;

(b) compactness of the area;

(c) ready availability of land for cultivation;

(d) soil and terrain capable of ensuring utilisation of machinery throughout the year;

(e) adequate means of communications; and

(f) proximity to established markets.

In response, the States of U.P., Kerala, West Bengal, Punjab, and Madras have sent negative replies. Final replies from the States of Bihar and Mysore have not yet been received in spite of reminders sent at frequent intervals. Considering the long time taken by these two States in sending their final replies, the Committee assumes that these States also have no suitable sites to recommend for the purpose.

4. Positive proposals have, however, been received only from three States, namely, Andhra Pradesh, Orissa and Maharashtra. From amongst the proposals already examined in the first report, the Committee was asked to re-examine those received from the States of Madhya Pradesh and Gujarat on the specific request made by the respective State Governments. The latter two proposals having been rejected earlier, it was considered desirable to examine them in greater detail after arranging for an on-the-spot inspection of the sites suggesgted by experts. To facilitate this the Committee appointed a small team of specialists which was able to finalise its findings in March, 1962. These two proposals in the light of the findings of this team as also the fresh proposals received from the States of Orissa, Maharashtra and Andhra Pradesh are discussed in Chapter II of this report which may be taken as our second and final report.

5. The feeble response received from the States would seem to suggest that the scope of having a number of large-State-owned mechanised farms in the country is rather limited except in Rajasthan.

6. Major General Th. Mahadeo Singh, General Manager of Central Mechanised Farm, Suratgarh, one of the members of the Committee, passed away on the 8th July, 1963. The Committee places on record its deep sense of grief and loss on the sad and sudden death of Th. Mahadeo Singh.

7. Shri S. S. Sivaraman replaced Shri Nawab Singh on the Committee on behalf of the Planning Commission on the latter's appointment as Secretary in the Ministry of Information and Broadcasting. Shri Kanwar Sain, Chairman and Administrator, Rajasthan Canal Board, resigned from the membership of the Committee in October, 1961 consequent on his deputation to Thailand on a foreign assignment. Shri Mahavir Prasad, Irrigation Adviser, continued to serve the Committee as its Secretary and was one of the members of the Team of Specialists deputed to Betul in Madhya Pradesh and Kutch in Gujarat for an on-the-spot inspection of the sites suggested there. The Committee would like to place on record its appreciation for the valuable assistance rendered to it by Shri Mahavir Prasad. Shri S. S. Guar, an Assistant of Farms Section of the Department of Agriculture continued to help the Committee in the secretarial part of its work.

CHAPTER II

Examination of States' Proposals

The Government of Andhra Pradesh has suggested two blocks. One block is of 10,000 acres and the other is of 12,000 acres. Both the blocks lie in the command of the Tungabhadra Low Level Canal. Major portion of the area in both the blocks is irrigated by canal and the rest by small tanks and wells. The soil in the two blocks can be classified as Block Cotton and Loamy. The land in both the blocks is owned by private cultivators

and consequent upon the setting up of a State Farm at either place there will be large scale displacements. Acquisition of land will be time consuming and pretty costly. Earlier enquiries had revealed that dry land in this locality would cost about Rs. 400 to Rs. 500 per acre and wet land about Rs. 1,000 per acre. Both the sites are considered unsuitable mainly due to two reasons, namely, (i) acquisition of land from private cultivators will be costly and time consuming and will give rise to problem of resettlement of the persons displaced and (ii) increased requirements of irrigation for intensive cropping under mechanised farming may not be met from the Tunghabhadra Canals under the irrigation schedule for which these are presently designed. There is hardly any established ground water availability to supplement Tunghabhadra supplies.

2. The Government of Orissa has suggested a compact block of more than 10,000 acres between Malkangiri and Motu in Koraput District. The land is mostly covered by forest growth which will have to be cleared before farming operations can be undertaken. The cost of reclamation is estimated at Rs. 150—200 per acre excluding levelling and layout. The area has very poor communications, the nearest railway station being at a distance of 135 miles from the proposed site. No irrigation facilities are at present available, but two alternative schemes for providing irrigation are under consideration of the Central Water and Power Commission. These schemes are mainly for power generation. It may be possible to get irrigation from these schemes. These schemes may, however, take considerable time to complete; the cost of water conveyance is likely to work out high particularly because a prominent ridge running north-east to south-west will have to be crossed possibly by a tunnel. The area being thinly populated, there will be difficulty in getting adequate labour. There is a weed called 'Jhun' which commonly occurs in this area, but it can be killed by irrigation under transplanted condition or by disc ploughing. Diseases like Malaraia and Black Water are prevalent in the area and it will be necessary to take measures to control these. The site proposed, therefore, is considered unsuitable due to (i) absence of irrigation facilities, (ii) poor communication and (iii) heavy expenditure involved on initial reclamation, levelling, etc.

3. The Government of Madhya Pradesh has offered a block of 30,000 acres of forest land in Betul district. The State Government is prepared to get the land cleared of trees and shrubs through its Forest Department at its own expense. The Forest Department is not likely to deforest more than 5,000 acres per year and at this rate full-scale farming in the entire block can be undertaken only after 5-6 years. No irrigation scheme for the area where the block is located has yet been formulated. Irrigation for 30,000 acres can, however, be arranged by constructing a reservoir at the site of Bichua on Tawa River. At this site it may be necessary to

construct possibly a 100-foot high dam and a contour channel taken out therefrom for conveyance of water to the farm area. The cost of the irrigation scheme would be about Rs. 1,000 per acre.

4. Based on the results of the analysis of Soils done by the Soil Specialists of the State Government it can be said that a large portion of the area has got rather low quality soil for intensive cultivation. Even under the present forest cover there is plenty of evidence of erosion. The soil will get eroded still more under mechanised cultivation.

5. A study of water table has indicated that at quite a large number of places the monsoon water is not promptly drained off. During monsoon the water table rises right to the top of wells or is within a foot or two of the surface ground. With heavy application of irrigation drainage difficulties are likely to crop up.

6. The topography of the area is rolling and because of this farming without soil conservation measures would not be possible. In the initial stages of land development it would be absolutely necessary to undertake measures like contour bunding, contour cultivation, gully-plugging, etc. The cost of such operations will be around Rs. 65/- per acre and will substantially add to the outlay on land development. In our view the land proposed by the Government of Madhya Pradesh should be retained under forests.

7. The site suggested earlier in Kutch district in Gujarat State was located in an area which is seasonally inundated by sea and for this reason was not considered suitable by the Committee. The three blocks of 10,000 acres each now offered by the Government of Gujarat are to the south of the site originally proposed and being on a comparatively higher level are not subject to floods by sea. Two of the three blocks are very close to each other and can be formed into one single block of 20,000 acres. The third block lies to the west at some distance. The area forms part of a strip of land called 'Banni' extending over an area of 1,200 sq. miles running all along the northern boundary of the main land of Kutch. The area falls in a semi-arid region with an average rainfall of 12"—13" varying from 2" to 42" in a year. Rainfall is received only during monsoon season and most of it is received between July and September. Rainfall is very erratic both in intensity and frequency and accounts for failure of crops in the area quite often.

8. The land suggested for the establishment of a mechanised farm lies in the command of three medium irrigation schemes, namely Rudramata, Kaila and Niruna. The Rudramata Dam and Kaila Dam have already been completed. The Niruna Dam is nearing completion. These three

irrigation schemes can irrigate some 20,000 acres, but it is feared that the quantum of supplies scheduled at present on the schemes would not fully cope with the irrigation requirements for intensive cultivation planned under mechanised farming. The limiting factors are the low order of rainfall in the catchment area of the dams and rather small storage capacity for which the existing works are designed.

9. The Soil Specialists of the State Government have examined the soils. From their reports it is revealed that the soils are clayey to clay loam for the first 2-3 feet with lower layers of lighter texture. There is no abnormal content of soluble salt in the soils and there is no likelihood of their developing salinity under irrigated farming. The soils, as we proceed to North, are slightly saline and the degree of salinity increases as we proceed further in this direction. The soils in one of the three blocks which is located in village Nirona in Bhuj Taluka is highly saline and the soil Specialists of the State Government have themselves recommended its exclusion from the proposed farm area. Half of the area in another block which is located in Village Dhori in Bhuj Taluka is also highly alkaline and has to be left out. This leaves only 15,000 acres out of 30,000 acres which can be considered suitable for cultivation.

10. The area proposed is essentially one crop area and mostly Kharif crops are grown. The principal Kharif crops grown are bajri, jowar, kodra, mung and gowar. Even with the irrigation facilities available from the existing sources, it will not be possible to raise cereals. Considering the soil conditions, erratic nature of rainfall and rather low intensity of irrigation supplies, the cropping pattern for the proposed farm will necessarily reflect a preponderance of Kharif crops. In fact, as much as 75% of the area will have to be earmarked for Kharif crops and the remaining 25% for Rabi crops. Over 10—15% of the cultivated area such crops as will partly cover both Kharif and Rabi seasons can be grown. Due to the imbalance in cropping programmes of Kharif and Rabi a substantial portion of machinery may lie idle during the Rabi season.

11. There is not much danger of the area, now proposed by State, getting flooded except by the surplus water that is passed over the escapes provided on the existing irrigation works.

12. There will be difficulty in getting an assured and sustained supply of drinking water, because the wells in the area generally get dried up soon after the rainy season. The only alternative will be to arrange drinking water from such water supplies as are passed down in the canals.

13. The proposed site in Banni area suffers from a number of drawbacks, namely, (a) effective use of machinery is not possible all the year round, (b) large scale production of cereals is not possible, (c) shortage of drinking water supplies and (d) labour ecalcity. Damage done to crops by

cattle in the area is yet another factor which weighs against the selection of the site. For these reason the proposed site is not considered to be suitable for crop production. It is not within our province to assess its potentiality as a cattle farm.

14. The Government of Maharashtra has offered a block of 10,055 acres of forest land in Chanda district. Of this, an area of 5,555 acres falls in the command of the Dina Irrigation Project work on which is reported to be in progress. The area lies in a region having an average annual rainfall of 50". The communication facilities at present available in the area are not quite satisfactory. The nearest railway station is at a distance of 50 miles. Deforestation of the area will involve heavy expenditure and will take time to complete. The area recommended is not considered to be suitable due to (a) assured irrigation being available only for about 5,000 acres which is too small an area for the large-sized farms we have in view, (b) heavy expenditure involved on initial reclamation and (c) lack of proper communication facilities.

New Delhi-1.
the 19th February, 1964.

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M. S. Sivaraman.
P. S. Lokanathan.
J. S. Patel.
Joginder Singh.

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