Dandakaranya: A Survey of Rehabilitation

I—The State of Agriculture

S K Gupta

The development of Dandakaranya was undertaken to solve an almost intractable human problem—the rehabilitation of a large number of refugees who were uprooted from their homeland in East Pakistan, victims of a political decision to divide the country in which they were not consulted. Vast numbers re-established themselves in West Bengal without help. A sizable fraction did so, fully or partially, with such help as the Ministry of Rehabilitation was prepared to give.

Dandakaranya was expected to provide a home for the residuary refugee population in camps or elsewhere for whom there was supposed to be no more room in West Bengal. More than twenty-two crores of rupees have already been spent and further expenditures are in the offering but barely seven thousand families have been given rehabilitation of a sort in the course of five or six years.

What is the end result of all this expenditure of time and money? What are the prospects? It is time that a proper assessment was made and people saw Dandakaranya without any blinkers.

My ten months at Dandakaranya of which four were largely pre-occupied with the new influx at Mana were not sufficient to allow me to know the facts as thoroughly as I would have liked to, because under the peculiar administrative arrangement of the Dandakaranya Development Authority most matters were dealt with at a lower level and hardly reached the Chairman unless they were regarded as matters of high policy or unless the Chairman specially called for information. There were no annual reports nor any collected body of statistical information covering all aspects of the project and its working up to date.

Even so, what I saw myself and learnt on further enquiry caused me profound disquiet. I have decided to share my disquiet with the public, not to cast reflections or start a polemic, but so that if things are what I believe they are, immediate action may be taken to set things right. Human distress on a large scale is much too serious a matter to be passed over in silence either to feed official complacency or to save reputations. 'A willing suspension of disbelief' may be, as Coleridge thought, a necessary precondition of imaginative writing or literary appreciation, but for the administrator nothing could be more fatal. He must not pull the wool over his own eyes nor over those of others.

Rehabilitation in the wider sense embraces all aspects of life. Here the word is used in the narrower sense of economic rehabilitation. The enquiry is confined to the different ways in which such economic rehabilitation has been sought to be effected and whether they are adequate. Of these ways agriculture, industries and employment and trade are the most important.

THAT the emphasis of the Dandakaranya Development Authority has hitherto been largely, if not exclusively, on agriculture admits of no doubt. Prior to the recent influx which began in February 1964 there were approximately 7,500 families of displaced persons within Dandakaranya of which 7,261 were recorded as agri-culturists and moved to village sites by the end of June 1964. By the end of the agricultural season of 1963-64 about 6,286 families had been allotted agricultural land at the rate of roughly 6.5 acres per family and half an acre for homestead and kitchen garden in four widely separated zones of Orissa and Madhya Pradesh, viz. Pharsagaon, Umarkot, Paralkot and Malkangiri. Seven acres are not an inconsiderable area for an agricultural holding on Bast Bengal standards and one would think that the settler would be fairly well-off. But the result of the experience of the last few years belies any such facile optimism.

The fact of the matter is that it is not the Quantity of land but its quality which, together with other factors, determines the yield on which rehabilitation depends. Among these factors, the most important are (1) soil texture and topography, (2) climatic conditions, (3) water (or irrigation), (4) a suitable cropping pattern, (5) good farming practice with improved seeds and implements, and (6) the skill and energy of the individual farmer together with the man-power he can mobilise in his support. Almost all these factors are inter-connected. The soil texture may be good but if rainfall is low or of very short duration, seeds will not germinate or will wilt even if they do, unless there is irrigation. If the soil is porous even heavy showers will prove unavailing in retaining the quantity of moisture which the crops require for growth and maturity; and if the land is sloping, fertilisers will be washed away along with the water. As for good farming practice much depends upon how quickly, under new soil and climatic conditions, the age-old habits of the cultivator and his preference for paddy can be changed in favour of a novel cropping pattern which in its turn depends upon a good agricultural extension service designed to bring new knowledge and technique to the notice of the cultivator. The personal factor includes man-power as well as the skill and energy of the individual farmer. One of the contributory factors for the latter is incentive which comes from the prospect of a good yield in return for input as well as ready marketability of the produce at a reasonable price. Manpower shortage in Dandakaranya during the crucial period of cultivation is a by-word. There is no surplus labour waiting to be employed nor any seasonal influx of such labour. The ordinary settler family has usually only one adult male member for whom it is difficult not to work in the fields have sometimes lent their hand in sowing and weeding but their number is small as household.
work could not be completely neglected. There are undoubtedly a few slackers, especially among those who were not traditionally agriculturists, but by and large the cultivators are inherently hard-working when there is at all any prospect of wresting a fair yield even out of reluctant soil. But as the soil scientist of the Project observed in February 1962 with regard to Boregaon and Jugani, you can't expect anybody to go on working hard if the predictable result is a poor yield which would not pay for the cost, far less maintain a family.

**Poor Quality Land**

The low quality of the soil in the areas released for the refugees is not a new complaint, but was noted by Sukumar Sen more than once and commented upon by the Agricultural Expert Team set up by the Food and Agriculture Ministry at his instance. In fact, the settlers have to make do with the worst lands, hitherto regarded as uncultivable. The local adibasis had, as one would expect, occupied all the fertile low-lying areas in the valleys enriched by silt and moisture. They had even cleared many up-land foresters to carry on their peculiar 'padu' cultivation in the slopes and burnt the forest undergrowth every year which deprived the soil of the enrichment it might have received from the decaying forest litter in the course of years. What remained was generally virgin forest land with little humus and with soil depth and texture varying from place to place.

In Boregaon and Jugani (Pharasgaon zone) the soil is generally shallow, sandy loam to loam in texture, acidic in reaction, poor to medium in nitrogen and organic content, and poor in phosphate as well as moisture-holding capacity. The Soil Scientist reported that 6 per cent of plots were basically unfit for agriculture, 32 per cent were poor and submarginal, 53 per cent could be of medium quality, and none from the other. The soil of Paralkot is closely similar to that of Umarkot area and is expected to behave in the same way under cultivation. In fact, soil survey reports indicate that the soils are fairly deep, generally acidic in reaction, medium in nitrogen and organic content and poor in phosphate. The texture varies from sandy loam to clay loam with underlying heavy textured soil in places and moisture retentivity is not very satisfactory. The picture is different in Malkangiri where the soils vary a great deal in their profile, characters and surface textural properties from that of Umarkot zone. In villages on either side of Malkangiri-Motu road the surface texture varies from sand, loamy sand to loam with sub-surface texture becoming heavier. On such land, according to Govinda Rajan, the suitable crop is not paddy but groundnut, tobacco and mesta. On Malkangiri-Balimela road, however, the soil is darker, deeper and heavier and therefore suitable for paddy. All the lands for the tribal quota have been taken from this region and none from the other.

The primary effect of climate is on rainfall which is important because artificial irrigation is as yet non-existent. Apart from its quantity, the period over which rainfall is spread and the occurrence of occasional bright spells in between are important factors in paddy cultivation which is the staple crop on which the settlers' heart is set. Most of the annual rainfall of 50"-60" takes place usually within a limited period of 100 to 110 days from mid-June to the end of September, starting and closing almost abruptly without pre- or post-monsoon showers. Because of this and the hardness of the soil for lack of moisture during the preceding dry months the settlers cannot start preparing the seed-bed and sowing seed till after the monsoons have started, and since these/operations take a minimum period of 2 to 3 weeks the effective period of monsoons left for helping plant growth and formation of grain is barely 90 to 100 days. Under these conditions the paddy which can be grown here must be of the broad-cast, rain-fed, short-duration variety since impounding of water is not possible on account of the light texture of the soil and its undulating contour, and there is no irrigation to supplement the rainfall and extend the period. But the shorter the duration of growth the less the yield and the more the susceptibility to diseases like 'blast'. Application of fertilisers on a large scale without artificial irrigation will not help much in increasing the yield because the high nutrient content of the soil will increase the period of vegetative growth of paddy plants, deferring the reproduction phase and making the plants more susceptible to damage for want of soil moisture at the most crucial grain-formation period of the plant life. Moreover, in a short-duration paddy suitable for the agro-climatic conditions mentioned above, the heading stage comes towards the end of September or early in October when vagaries of climate like heavy rains or storms or drought often damage the crop with a good harvest. Broad-cast paddy requires to be weeded at least twice, but if the sowing starts after the commencement of the monsoons the appropriate time for weeding will coincide with that phase of the monsoons when rainfall is heaviest and most continuous. This adversely affects weeding, even apart from man-power shortage in the family and lack of resources to employ hired labour.

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The effect of the soil and the climatic conditions in those parts of Dandakaranya area where refugees have been settled is that the lands are not ideally suitable for the production of a satisfactory paddy crop except where the soil is of a heavy texture and low in situation. According to the Director of Agriculture only about 20 per cent of the holdings have an yield of about 15 maunds per acre while 80 per cent have an average not exceeding 8 mds. The Chief Administrator before me would not believe it and held that the
yield must be higher, and an obliging subordinate officer of the Agricultural Department dutifully gave him a note in support, but the Director of Agriculture stuck to his view. To the Chief Administrator's statement that at least 60 per cent of the lands given to displaced persons must be yielding 10 mds of paddy per acre if not more he observed that "the lands would then be very good indeed and there would have been no scope for us to find hundreds of acres in this tract unutilised. My view which I had submitted to the Chief Administrator about the potentialities of paddy production still holds good."

**Detailed Analysis**

A more detailed analysis of the condition of agricultural settlers and the yield from the lands will, therefore, be attempted for each of the four zones though absence of reliable statistics is a great handicap. Selective crop-cutting experiments on 5 per cent sample survey basis generally exaggerate the yield and are highly unreliable. Whether this is due to a natural desire on the part of the agricultural extension officers to justify their existence or encourage complacency in an easily convinced top-level administration is difficult to say, but most zonal Administrators have been sceptical of crop-cutting figures and relied more on their own comprehensive estimates made by their sevaks by house to house survey under the guidance of Assistant Administrative Officers after the crop is harvested. The difference in respect of some villages is indeed striking. In one Umarot village, while crop-cutting showed an average of 8.26 mds per acre to house to house survey showed 3.16 mds. In two others while crop-cutting showed an yield of 15.27 mds and 14.8 mds respectively per acre, house to house survey showed 10 mds. In another prosperous village the house to house survey estimate was 14 mds against the crop-cutting result of 17.14 mds. The Agricultural Development Officer's report for 1963-64 shows that only 439 families in Umarot zone received 30 mds of paddy or less while the Zonal Administrator gives the number of such families as 768. It was because of these discrepancies and the insistence of some villagers that the actuals were even less than what was recorded on house to house survey that I directed a simultaneous comprehensive verification of the entire stock of paddy in settlers' houses to be completed by the end of December 1963 or the beginning of January 1964. The result was startling and will be referred to later in the course of this discussion. True, this verification shows the position three months after harvesting during which, apart from what was consumed, some paddy must have been sold, but the suggestion of the then Chief Administrator that the settlers concealed their paddy in adibasi houses is too absurd and has only to be stated to be disbelieved. It was a snap verification without notice, and in any case there is not so much mutual confidence between the settler and the adibasi as to league them together in a conspiracy of silence.

The figures should therefore be taken with some caution and in case of conflict the house to house survey figures should be preferred. It should be remembered that for the purpose of assessing the nature of rehabilitation correctly averages are not a safe guide as they mask the condition of the economically weakest group. When the declared intention is to start each individual displaced family on the road to rehabilitation by giving all families identical advantages in the shape of equal quantities of land and equal loans or grants or services, success of rehabilitation must be judged by the condition in the lowest bracket. One should ascertain how many people are unable in spite of honest effort to make both ends meet from their agricultural land and other subsidiary pursuits carried on along with agriculture.

We must also have a clear idea as to how much paddy a family needs in order to make both ends meet. A conservative estimate for a family of 4.5 persons puts it at 36 mds for food, 7 mds for seed, and 18 mds for sale to meet his cash expenses—a total of a little over 60 mds per year. Some supplementary items of food may probably be raised in the kitchen garden provided there is a well for watering the garden. Supplementary cottage or small-scale industries may also meet part of the need if favourable conditions for such employment are created. But if industrial employment is whole time with little respite left for ploughing and sowing as is the case with a substantial portion of people in Boregaon and Jugani, it is obviously a failure of agricultural rehabilitation.

(a) **Pharasgaon Zone**

Pharasgaon zone comprises three villages: E Boregaon, W Boregaon and Jugani. This is the earliest settlement where 205 agricultural families and 46 non-agricultural small-trader families were moved in 1959. The latest figures suggest that the number of small-trader families has come down to 30 or 34.

In 1961 and the preceding years the yield of paddy was less than 5 mds per acre while the district average was 10. In 1962 an experiment was made on 129 plots to improve the yield by the application of manures and fertilisers (ammonia sulphate, superphosphate, oil cake and green manure) and the conservation of water through proper field bunding. The result, so far as yield was concerned, was encouraging with an average of 11.38 mds per acre, though the Zonal Administrator does not put it higher than 10.5 mds approximately. But the expenditure on manures, fertilisers, seed loan and labour was enormous, and there was no satisfactory supplementary crop. Only 'mesta' and 'til' grew well and 'urid' thrived when it was treated with super-phosphate. Castor, niger, cotton, vegetables and spices did not do well while maize and 'arhar' suffered damage from cattle trespass. In 1963-64 when the experiment of manuring was not repeated and 93 per cent of the area was sown with paddy and 7 per cent with other crops, the yield was again poor, averaging 5.44 mds per acre according to crop-cutting trial and 3.37 mds according to house to house survey. The Zonal Administrator's report shows that out of 1,214 acres as much as 200 acres (32 plots) were unproductive, 131 plots (or families) received up to 30 mds, 16 plots yielded between 31 and 40 mds, 5 plots between 41 and 50 mds, 10 plots between 51 and 60 mds and 11 plots above 60 mds. About 46 persons tried to grow niger but not very successfully. When actual stock verification was made on September 1, 1964, it was found that on that day 193 families had less than 10 mds in their possession and in the remaining 11 families the stock varied from 10 to 19 mds.

What the position will be in 1964-65 I have no means of verifying, but when I left Dandakaranya it was not very encouraging. By the end of July when agricultural operations should have been in full swing, less than a fourth of the agricultural settlers had taken exclusively to cultivation. Thirty settlers of Jugani had not done any cultivation at all, many had sold their bullocks or were thinking of
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doing so, while others who were willing to plough by working night shifts at the Industrial Centre were finding themselves handicapped for want of seed paddy and plough cattle. People relied on industrial employment in the wood-working centre at Boregaon or on salaried employment. Out of 205 agricultural families 39 had secured regular salaried employment within or outside this zone, members of 117 families were working in the industrial centre mostly on daily wages, and 43 were earning their livelihood either by cultivation or by independent trade or business such as grocery, tailoring, sate of fish or milk, plying carts, or by working as masons or petty contractors. Most agricultural families worked night shifts in order to attend to their fields by day, thus cutting down their period of rest; and I have seen a case where husband and wife worked in alternate shifts in the industry and weaving sections at Boregaon in order to take their turn with the baby, the husband driving the plough with the baby on his shoulders. Very little supplementary income could be received from subsidiary cottage industries. In 1963-64, out of 46 persons who received cottage industries loan, only 12 persons earned a moderate income while all the others suffered loss or ate up their capital. But for the Industrial Centre at Boregaon, despite its low rate of wages, most of the agricultural families in these three villages would have starved.

(b) Umarkot Zone

The second area to be taken up for reclamation was Umarkot where there are 24 villages, half in Umarkot sub-zone and half in Raigarh between which there is a broad belt of reserve forest about 20 miles wide.

The uneven distribution of good and bad lands in this zone without regard to whether a family got a reasonable proportion of land on which he could grow paddy is noticeable. The soil scientist found in the course of his survey of Umarkot sub-zone that out of 1,240 families in 23 villages 176 had nothing but high land which was altogether unsuitable for paddy, 51 had only one acre of paddy land each, 107 had 2 acres, 176 had 3 acres, 143 had 4 acres, 117 five acres and 470 six acres or more. Taking the average yield to be 10 mds per acre which is somewhat optimistic, a settler family should have at least 4 acres of paddy land to give him just enough for his food requirements. On this basis more than 41 per cent of the settlers of Umarkot sub-zone are without the required minimum. It is not surprising that for a substantial proportion of the settlers of this zone the minimum needs are not satisfied from the produce of the land.

In 1961-62 when only Umarkot sub-zone was developed and there were 1,265 families in 24 villages, the average yield was 10.55 mds per acre according to crop-cutting experiment (In the Soil Scientist's report it is given as 10.36 mds). Even so, at least seven villages had a much smaller average varying from 6 to 8 mds per acre and 249 families got less than 35 mds each. The number of families getting between 35 to 70 mds was 807 while the remaining 209 families got more than 70 mds. Two hundred and forty nine families would be about a fifth of the total number and they could not get from the land even their minimum food requirements, not to speak of an extra quantity for satisfying other needs or preserving seed paddy.

In 1962-63 there was a drop in the average yield per acre. The number of villages had by then increased to 47 and the number of families to 2,546. For 24 villages of the Umarkot sub-zone this was the second year of cultivation while for Raigarh sub-zone it was the first year. Paddy was the main crop. The total area under it was 12,134 acres and the total output 115,371 mds yielding an average of 9.50 mds per acre. Out of 2,546 families as many as 1,547 are reported to have got less than 50 mds. Two hundred and forty nine families would be about a fifth of the total number and they could not get from the land even their minimum food requirements, not to speak of an extra quantity for satisfying other needs or preserving seed paddy.

But actual physical verification of stock carried out between December 27, 1963 and January 4, 1964 showed a very different picture. At that time only 121 families or 4.3 per cent were found to have a stock of 50 mds or above. Then in descending order came 108 families (3.8 per cent) with stock between 40 and 49 mds, 219 families (7.8 per cent) between 30 and 39 mds, 452 families (16.1 per cent) between 20 and 29 mds, 79% families (28.4 per cent) between 10 and 19 mda, and 1119 families (39.7 per cent) less than 10 mds. In the last category there were 121 families who had no stock at all and more than 370 families who had less than 5 mds. Even if, allowance is made for the quantity consumed and sold for cash expenses the result of stock verification indicates that crop-cutting experiment figures need drastic modification. To suggest a post harvest spending spree among settlers or concealment of paddy in adibasi houses to account for this wide variation seems to be insufficient.

Supplementary Occupations

It may be said that besides paddy other crops were grown and that besides cultivation other supplementary occupations were available. What is their nature and what effect did they have on the settlers' colony?

Assuming that all the lands were cultivated (about which one cannot be sure) 19 per cent of the allotted lands were sown with other crops, the most important being urid, grown on 1,440 acres, mesta on 526 acres, niger on 760 acres, 'mung' on 224 acres and til on 285 acres. Crops like Arhar, ground nut, ragi and maize were tried on so small a scale that they may be left out of account. Even Mung and til come under this category having regard to the approximate price of the yield. It is only mesta, urid and niger which yielded sizable crops of 4,288 mds, 3,600 mds and 3,040 mds respectively. The settlers' income from these non-paddy crops must however be calculated on the basis of what they would have obtained in the village or in the neighbouring hat and not, as the Agricultural Development Officer had done, of the price obtaining in the distant urban market or at the jute mills. His conclusion that the average income of a settler family in Umarkot was Rs 614 per year in 1963-64 suffers from the fundamental fallacy of taking the rutting price of the distant urban distribution centres as the price which the
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families carried on cultivation as the remaining 16 families were brought to the area too late for taking up agricultural operation. The total area under paddy was over 11,000 acres which meant about 5 acres per family, though all these 5 acres were not wholly suitable for paddy.

From the estimate made by the Zonal Administrator after taking into account the crop-cutting experiment of the Agricultural Department, the sevakas' report, the settler's own statement and the result of the stock verification it appears that the total number of villages in which the average yield per family was less than 40 mds was 18. The number of villages having less than 50 mds per family was as high as 33. Taking the zone as a whole the average yield per family was 43.5 mds but if we break up the number of families into categories having a paddy yield up to 20, 21-30, or 40 mds the result will be as shown in the Table below.

	| Category                      | No. of Villages | Total No of Families | Families Getting Up To 20 mds | Families Getting 21-30 mds | Families Getting Between 31-40 mds |
|-------------------------------|-----------------|----------------------|------------------------------|---------------------------|----------------------------------|
| Group I villages (numbering 15) | 669             | 150                  | 139                          | 144                       | 163                              |
| Group II villages (numbering 19) | 979             | 85                   | 126                          | 204                       | 163                              |
| Group III villages (numbering 11) | 375             | 24                   | 58                           | 511                       | 163                              |
| Total (45 villages)           | 2,223           | 259                  | 323                          | 511                       | 163                              |

Of these factors he thinks that poor soil or its unsuitability for paddy is more important than is generally admitted. As for negligence he thinks that although sometimes willful, it is more often forced upon settlers by sickness while had lands or two successive crop failures acted as deterrents to energetic work. Weed growth was prolific which for a one-worker family was difficult to combat in time both for lack of man-power and of suitable implements. His conclusion is that although many of the settlers had come to Dandakaranya after 10 or 12 years of camp life they had generally overcome their camp sluggishness creditably and were doing their best.

This shows that given land which is not sub-marginal and an Administrator who is knowledgeable, sympathetic and hardworking, rehabilitation on agricultural land is possible. Supplementary income for about 100 persons was available towards the end of December 1963 in the Industrial Centre started that month in one of the villages, and the number rose steadily till the end of May 1964 when most workers were disbanded in order to attend to cultivation. Almost 50 per cent of tile settler families had also received milch cattle which is another source of supplemental food.

(d) Malkangiri Zone

This was the latest zone to be developed where work is still going on though the present indications are that after the lands whose release has been asked for are obtained the possibilities of further extension of Malkangiri will have been exhausted. At the beginning of the last agricultural season (1963-64) only 23 villages could be opened and 1,023 families allotted agricultural land which they cultivated in groups. Since October 1963 more villages have been opened though somewhat gingerly as tubewells could not be sunk quickly.

What about the prospects of the current agricultural year, 1964-65? The late monsoon and the long gap between the first shower and the next wet spell caused some anxiety but it did not last long. AIl the settlers have ploughed their lands, including those who had no adult male member in the family. The families who were pauperised by a partial failure of crops in 1963-64 and were supporting themselves by the casual labour mentioned above were maintained by a short-term loan during the three crucial months of the agricultural season. The result is not yet known though the harvesting is over. Some stray reports reaching me from Umarkot about large-scale desertions do not encourage optimism but full facts will be known only if accurate house to house census of stock is taken.

(c) Paralkot Zone

In Paralkot 1960-61 and 1962-63 were years of partial failure of crops, but 1963-64 was supposed to be a good year as there was 'sufficient rainfall spread over a fairly long period and the settlers of older villages had become acclimatised to the zone. In that year there were 2,239 settler families spread over 45 villages, but only 2,223...
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enough on account of the underlying rocky strata and the withdrawal of the drilling rigs to Mana after the new influx, but their agricultural potentialities cannot be assessed till the current agricultural season is over. The figures below relate to the agricultural season 1963-64 in these 23 villages.

These families worked in groups during the year. They raised 27,422 mds of paddy on 4,691 acres, giving an average of 5.85 mds per acre.

The grouping of families according to quantity received works out as follows:

<table>
<thead>
<tr>
<th>Quantity obtained</th>
<th>Number of families</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 30 mds</td>
<td>671</td>
<td>65.6</td>
</tr>
<tr>
<td>Between 31 &amp; 50 mds</td>
<td>180</td>
<td>17.6</td>
</tr>
<tr>
<td>Between 51 and 60 mds</td>
<td>86</td>
<td>8.4</td>
</tr>
<tr>
<td>Above 60 mds</td>
<td>86</td>
<td>8.4</td>
</tr>
<tr>
<td>Total</td>
<td>1,023</td>
<td>100.00</td>
</tr>
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</table>

This is sufficiently discouraging but a more detailed break up of the number of families in the lowest brackets shows the position to be worse:

Number of families receiving up to 10 mds of paddy:
- from 10 to 15 mds: 242
- from 15 to 20 mds: 209
- total: 631

It is possible that the uneven quantity of the land is responsible for these wide disparities, some receiving only 5 mds while some others received 90 mds, and that the disparities will be partially ironed out when a more discriminating allotment is made at the time of distribution of land to each individual family. Even so, unless the productivity can be increased the maximum that a family could receive on equal distribution out of the yield of 1963-64 could never exceed 27 mds.

The over-all position may be dimmed up thus on the basis of paddy yield which is a fairly accurate index. In Pharasgaon zone, out of 205 families 26 received above 40 mds of paddy in 1963-64 and 179 below it. In Paralkot, out of 2,223 families 1,130 received above 40 mds and 1,093 below it. In Umartok, out of 2,834 families 1,993 received above 35 mds and 841 below it. If the dividing line be 50 mds 1,322 families would be above it and 1,512 families below. In Malkangiri zone, out of 1,023 families 352 received above 30 mds and 671 below it. If the dividing line be 50 mds 172 families would be above it and 851 families below. The average yield per acre was 3.37 mds in Pharasgaon, 10.3 mds in Umartok, 8.35 in Paralkot and 5.85 in Malkangiri. There is no evidence of large scale vegetable gardening which was, in any case, greatly hampered by lack of water and absence of markets. In one zone, agriculture was so poor that people gave it up as a bad business and became workers in the Industrial Centre. Cottage industries started in different zones touched only a fringe of the affected population, and except where the Zonal Administrator was energetic, were either moribund or intermittently active. Where casual labour was available people whose yield was poor eked out a sub-standard living somehow; where it was not, they starved. There is no general policy of giving test relief by providing work where the spectre of famine is in sight, as one finds in the normal administration of a State. Once the full quota of agricultural loan (Rs 850) has been received by the settler for his implements, bullocks, milk cow and seed he has no more claim on the Project Administration for further loans, and whatever further accommodation he may receive is by way of grace which is not always available.

Where then do we go from here? Dropping agriculture altogether as a bad business as was once suggested by the Minister would not help. It would mean leaving seven thousand families in the lurch after investing crores of rupees in trying to settle them on land. Apart from the huge waste, no satisfactory alternative for these people can be visualised. Nor would callousness or indifference, such as was shown by an ex-Chief Administrator who, on receipt of a distress signal from a Zonal Administrator, sat over the file for three months and on the eve of transfer recorded a minute 'strongly objecting to giving any short term loan because it would be "administratively unwise and demoralising". To say that "we should not place any kind of premium on bad husbandry or laziness and should in fact discourage such families by refusing them relief and forcing them to stand on their own legs" assumes, wrongly, that poor yield is invariably due to the fault of the settler. And to suggest vaguely that if possible work might be provided overlooks the fact that outside work (assuming it is available) during the crucial three or four months from June to September would leave none to look after cultivation on which the family would have to depend for maintenance for the rest of the year.

Collousness or self delusion of this sort is not the answer. What is needed is a careful and factual analysis of the causes of poor yield in different areas and a determined attempt to remove these causes if possible. Such an analysis was made by the Agricultural Expert Team whose Report, published in the second half of 1963, contains within a short compass a valuable summary of the causes that are retarding agricultural progress in Dandakaranya. For want of space only a brief summary of their findings can be given.

IV

Report of the Agricultural Expert Team

The Team's finding about farm output agrees with what has already been stated. An output of paddy varying from 2 mds to 7 mds per acre, of mesta about 10 mds, of ground nuts up to 10 mds, of arhar about 5 mds, and of sesame about 8 mds is a poor enough yield to sustain an agricultural economy even on a minimum level of subsistence. This was not due to "bad husbandry or laziness" for they found the settler receptive to suggestions and enthusiastic in work though not yet completely adjusted to a new environment and unable to shed the agricultural practices and cropping patterns followed in East Bengal. There should be mixed cropping in Dandakaranya as an insurance against partial failure of either crop and exclusive preference for paddy should be discarded in favour of a new cropping pattern in which the cultivation of maize, arhar, castor, mustard, niger, mesta, tobacco etc all have a place. Leguminous crops like 'dhanicha' could be grown either as a cash crop or as a source of green manure. The Team laid considerable stress on careful selection of seeds suitable to the agro-climatic condition of the locality, and on the need of levelling, terracing and contour-bundling the undulating terrain in which action has 'sadly lagged behind'.

Deficiencies in the physical and chemical properties of the soil are a more formidable obstacle which requires to be tackled by a liberal use of organic and green manure and an adequate
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quantity of fertilisers. The growing of manurial and leguminous plants for re-storing to the soil the humus which needs frequent replenishment would require setting apart some portion of the land every year for this purpose. For organic manure cow-dung composites are the best and should be available as fuel is no problem in Dandakaranya, but since one pair of bullocks and an occasional milch cow may not yield enough farm yard manure to cover the settler's land in full, a suggestion is made that dairy farms should be started by groups of settlers in as many villages as possible whose incidental by-product will be a sufficiency of cow-dung manure that the villagers will need. Fertilisers are a more difficult problem. For curing acidity about 2 tons of lime per acre are necessary while an application of 100 lbs of ammonium sulphate has been found to double or treble the yield of paddy in Boregaon and Jugani in 1962. "To the extent that these measures are not adopted in practice by all the settlers through lack of conviction or resources the process of rehabilitating displaced persons as farmers will be delayed". Lack of conviction may be overcome by demonstration held in selected agricultural holdings in villages, but resources can be augmented only by raising the ceiling of loan or subsidising the price. The amount of ban was fixed ad hoc and was too small even when it was fixed but with passing years and the rise of prices it has become utterly inadequate.

Greatest Snag

It should be the duty of the Mixed Farms in different zones to investigate scientifically the problems which face the settler. Experiments must not be an inefficient academic exercise in growing exotic varieties as in the Dumriput Horticultural Farm which is situated far away from any zone but directed particularly to solving local problems that are being faced now or are likely to be faced in future. The Mixed Farms should also serve as units for multiplication and testing of seeds and raising livestock and poultry, and as demonstration and training centres where settlers will work for wages and their younger generation will learn with the help of stipends.

But the greatest Snag is lack of irrigation. The Team criticise the DDA's preference for big and costly irrigation schemes and its complete indifference to minor irrigation. More than Rs 5 crores were allotted for three schemes, technically called medium, of which only one at Umarkot, viz. Bhaskal Dam (estimated to cost about a crore) was in operation and likely to be completed in 1965 or 1966. Of the other two, actual dam construction of the Rs 2.02 crore Project on the Sattiguda in Mai-kangiri—pace the statement made in Parliament—is not likely to be undertaken before 1966, and the Rs 2 crore project in Paralkot has only just come out of its chrysalis after having obtained the necessary imperium from the CWPC. When it will be undertaken and completed is anybody's guess. Of the benefits of Bhaskal Dam only a tenth will go to displaced persons while the rest will go to others, for out of a total estimated command area of 11,000 acres, only 1,100 acres will be land belonging to displaced persons, it is said that another 400 acres may probably be added by lift irrigation if additional capital is invested and electricity is available at the Dam site what is yet a far cry. Among minor irrigation schemes only one at Pakhanjor estimated to cost about Rs 7.5 lakhs has so far been undertaken but the quantity of displaced persons lands likely to be irrigated by it is small. Twenty-four minor irrigation schemes have been under investigation for a long time, but either because the head of the Irrigation Department is not interested—he confessed he had no experience of minor irrigation and wanted to be relieved of it—or because the investigating engineers are incompetent and lethargic, little tangible progress has been made.

Yet, as the Expert Team say, the DDA would have been better advised if it had concentrated on minor irrigation which has many advantages over bigger and costlier schemes. The time taken in the construction of such schemes would be much less and the benefit would flow immediately, the initial and recurring cost would also be less, the benefit would be solely conferred on the lands reclaimed for displaced persons and adibasis, and the problem of water distribution and utilisation less difficult of solution. But whatever the method adopted irrigation in Dandakaranya, is an absolutely imperative necessity without which any expectation of agricultural rehabilitation in the majority of cases will prove a mirage. The settlers will fight a losing battle against uncertain and short-duration rainfall and reap a harvest which will not last them for more than six or eight months in the year. With irrigation they can switch over from rain-fed broadcast paddy to transplant ed paddy whose yield is more. They can have a second or rabi crop which now they are unable to do. They can start field bunding or ploughing earlier with the help of water from big storage reservoirs and irrigate the land at the maturing stage if the rains hold off unaccountably early. Agriculture will not be a 'gamble in the rains' as it now is. A small well in the homestead will also help growing of vegetables in the attached kitchen garden in which the women of the family may work.

Organisation for Marketing

But all this will be partly useless without a proper organisation for marketing. If production had been for home consumption alone this would have mattered less, but on the assumption that improved methods would increase output and that crops other than paddy would have to be grown in larger quantities organisation of sale becomes a matter of urgent necessity. Even the weekly 'hats' spread over the area are not too close to the newly settled villages and settlers who have invested in carts ply a lucrative carrying business; but the bigger urban markets or distribution centres are too far off for these carts to reach. Middlemen are few and there is no competition among them so that settlers are at their mercy. In 1963-64 when the ruling price of 'mesta' at the Mill site was Rs 22 per md many settlers in Umarkot sold it at half the price till by direct negotiation with the Jute Mill owner one of their middlemen was persuaded to lift the balance at prices varying from Rs 15 to Rs 17. Cases have been reported where settlers brought pumpkins all the way from village to 'hat' but finding no demand dropped them by the way side to avoid the burden of carrying a heavy head-load home. In Malkangiri the Zonal Administrator occasionally utilised returning empty trucks to take the produce of the settlers to Jeypour or Jagadalpur which were a hundred or two hundred miles off, but such casual help is too uncertain to be a dependable substitute for disposing of farm produce at a reasonably good price throughout the year.

Should the farming be individualistic or joint? The Expert Team's feeling is that co-operative or joint farming would solve many of the settlers difficulties if the problem of dealing with the maleriger and of equitable distribution as between small and large families could be properly tackled. But an even greater difficulty is the instinct of
Individual ownership which is strong among farmers almost all the world over. The Team want to meet this by suggesting that while the settler will preserve his right over his individual holding, the pooling of land, manpower and other resources will enable the settlers working as a group to derive the maximum benefit. If the settlers can be persuaded to accept this arrangement it will no doubt be a great step forward though preliminary discussions with the settlers have not proved very encouraging.

The latest suggestion of the Ministry is however in favour of Collective Farms run directly by the Project in which displaced persons would be employed as labourers and, if possible, allowed a share of the produce. The suggestion has been made not so much because the Ministry is enamoured of the Collective Farm idea as such as because of a feeling that the new migrants were all land-less labourers of East Bengal who are tempted to cross the border by the lure of land obtainable free. In judging how far this scheme is workable I need only refer to the Project's experience with its Mixed Farms at Umarkot and Paralkot which may serve as fair models of the economics of a Collective Farm of that size run by officials with hired labour.

The pro-forma accounts recently drawn up for these two Farms, up to March 31, 1963 show that at Umarkot the excess of expenditure over receipt, as a result of about two years' working, was Rs 2.27 lakhs and in Paralkot it was about Rs 92,000 as a result of a year and a half's working. Even if 40 percent is deducted for the experimental part of these Farms and the frozen assets of the horticultural section which would not bear fruit till four years later, the resultant loss would still be high. In both these cases labour was generally paid at the minimum permissible rate and surplus labour was laid off or discharged when the peak agricultural season was over. Obviously the same method of wage payment cannot be adopted in the proposed Collective Farms, for the refugee families induct into the Farm cannot be cast adrift after the agricultural season is over. The rate of wages must also be such as would enable the family to live. The wide gap between expenditure and receipt now seen in the Mixed Farms will increase rather than decrease when the Farms are collectivised, and the promised share of the produce in addition to wages will remain a futile dream.

The wise course would be to recognise the tenancy rights of the displaced persons (either as individuals or as members of Co-operative Societies) so that self-interest and the sense of property may be harnessed to increase production. The displaced persons have not yet had their tenancy rights secured by the grant of pattas because the Ministry is as yet unable to decide whether the cost of reclamation and development of agricultural land should be charged to the settler. It would be a cruel joke if people up-rooted from East Bengal who have lost all their assets are made to pay for the development of Orissa and Madhya Pradesh.

Even by putting forth one's best energies and the most liberal capital investment for bunding, levelling, terracing, irrigating, manuring and marketing, etc. a sizeable fraction of the holdings will still be unable to provide a living to their owner. What I have attempted to prove is that the number will be much less than they are now, if the steps suggested by the Expert Team are adopted. For the holdings below the margin some alternative means—either mixed farming with an emphasis on dairying, poultry farming, stock breeding and vegetable growing, or industries or a combination of both—may have to be found. As regards mixed farming a lot of leeway is still to be made, for what has been done up to date has not even scratched the surface. When more than 50 percent of the tanks of settler villages, excavated at an average cost of Rs 20,000 or more dry up in summer, pisciculture becomes out of the question except in big State-owned tanks from which the displaced persons derive no benefit. The supply of milk and cows has not escaped criticism either, and the Agricultural Expert Team expresses in somewhat guarded language its fear that the cows and heifers which were supplied free under the stray cattle catching scheme in New Delhi were substituted en route. As regards industries, the imbalance in the economy of Dandakaranya with its overwhelming emphasis on agriculture which hardly pays its way and the neglect of industries and other urban pursuits which could provide a living wage has long been notorious, but that is a large question which has to be treated separately.

(To be Continued)