

PRESS INFORMATION BUREAU (DEFENCE WING)  
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ASSESSMENT OF GROW MORE FOOD CAMPAIGN  
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Much of the criticism against the campaign for increased food production is uninformed, and results in creating a sense of frustration instead of helping strengthen the campaign by focussing attention on its real shortcomings and suggesting ways of correcting them. Occasional failures, inevitable in a large country, or isolated instances of misuse of aids given to the farmers, tend to produce a distorted picture of the situation. The success or the failure of the campaign should be judged in the light of authentic information regarding the proportion of cases, in which the effort was wasted or misused, to the total effort. This article describes briefly the factual position regarding the campaign.

The G.M.F. campaign consists of works like land reclamation, development of new sources of irrigation, etc., and supply schemes like distribution of improved seed, fertilizer, manures, etc. For each scheme, targets are framed at the beginning of the year in respect of each state by the Union Ministry of Food and Agriculture in consultation with the State concerned. The actual implementation of the programme, e.g. sanction of taccavi loans for irrigation or distribution of seeds and manures, is done by the staff of agriculture and other departments of the States. The States report periodically to the Government of India the progress in respect of the execution or achievement of each G.M.F. scheme.

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The framing of the targets or reporting of achievements is done in terms of units of a specific G.M.F. aid given, such as the number of wells sunk, tons of seed distributed or area of land tractor-ploughed, and also in terms of the additional food production with the help of yard-sticks, which give the additional production to be expected per unit of a particular G.M.F. aid. Thus, under the minor irrigation programme, a target of sinking <sup>1,000</sup> wells may be framed, which is equivalent to 1,000 tons of additional production of foodgrains, assuming that the acreage under foodcrops irrigated by the construction of a well results in giving one ton of extra food. Or, again, say the distribution of fertilizer, the target laid down may be the distribution of 1,000 tons of ammonium sulphate and this means 2,000 tons of additional food, on the assumption that the application of one ton of ammonium sulphate to the crop results in two tons of additional production of foodgrains on the average. This method of linking food production with the units of G.M.F. aid possesses the advantage of simplicity. The yard-sticks employed in these calculations are based on all available data including experimental results at government farms and the experience of agricultural experts. These yard-sticks may vary in different regions, depending upon their agricultural conditions.

#### DRAWBACKS

While, for formulating target programmes for a given season, the above approach is apparently the only one that is feasible, it has a limited value in estimating the results achieved at the end of the season. The yard-sticks assumed for measuring the increase in production per unit of any G.M.F. aid may or may not hold under the cultivator's conditions. Even if these yard-sticks are accepted as representing the average increases in yield that may be achieved in practice, there is the disturbing influence of the season, on account

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of which the results obtained in a particular season, may deviate appreciably from the average. Thirdly, the acreage actually benefitted by the G.M.F. aids may differ from its value calculated by multiplication of the number of units distributed, and the areas expected to be covered per unit, owing to misapplication or misuse by the farmers of the aids distributed to them.

The Government of India conscious of these limitations asked the Indian Council of Agricultural Research to examine the problem, to devise a suitable technique for estimating the additional production from the G.M.F. campaign objectively. It was felt that the I.C.A.R. which had developed successfully a sample survey method for estimating the total production of food-crops, could offer a feasible solution in this direction as well.

#### NEW METHOD OF ASSESSMENT

A direct estimation of the additional production resulting from the schemes under the G.M.F. campaign depends upon an accurate determination of two factors:

- (i) the acreage which has actually received a particular aid; and
- (ii) the average increase in yield per acre secured therefrom.

As regards acreage, accurate figures are readily available for schemes of land reclamation by tractor ploughing; because in ploughing up large blocks of land, field boundaries are destroyed and detailed area measurement has to be made by land survey staff to enable these boundaries to be marked again, after ploughing is done. In the case of seeds and fertilisers, these are distributed from depots of the agricultural departments, or of co-operative societies to farmers in surrounding villages. A list of cultivators receiving these, together with the name of their village, is maintained at these depots. Similar lists are available of the loans which are advanced to cultivators

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for the construction of wells. With the help of these lists, it is possible to enumerate the acreage on which improved seed is sown or to which fertilizers or irrigation are applied, by inspection of the fields and by careful interrogation of the cultivators and of their neighbours. Depending upon the extent of area to be enumerated and the staff available for this purpose, this enumeration can be done either completely or on a random sampling basis. A combination of both perhaps provides the best approach for an accurate estimation of acreage. The enumeration of complete acreages carried out by whatever field agency is available, is checked on a random sample by the supervisory staff and suitably adjusted on the basis of this check.

To measure the increase in yield per acre from different G.M.F. aids, a comparison between yields of fields with and without these aids is necessary. This can be done by conducting a sufficiently large number of parallel crop cutting experiments on fields receiving a particular G.M.F. aid and on fields similar to the former in other respects, but not receiving the aid. Provided both types of fields are selected by the strict procedure of randomisation, so that no room is left for making a deliberate choice of the treated or the control field on the part of the experimenter, the results of the two sets of experiments would give the average rate of increase in yield obtained from the G.M.F. aid under examination. The detailed planning of such experiments would naturally depend upon the kind of aid to be studied. Generally a pair of plots, one in the treated field and the second in a nearby untreated or control field, would form an experiment; but in regard to, say, tractor ploughing of fallow land, only one set of experiments to measure yield on the newly cultivated land would suffice, as all production here would be additional.

....Results

### RESULTS

A pilot survey on these lines was initiated in 1949 on the rice crop in two districts of Madhya Pradesh. A total of about 400 experiments involving twice the number of crop-cutting plots, were carried out on seed, manures consisting of fertilisers and oil cake and seed and manure given together. A complete enumeration of acreage was done with the help of lists of cultivators to whom seeds and manures were given from the depots. The field work was done by the staff of the Agriculture Department. The results showed that the average increase in yield from improved seed, manures and the two together were 0.9, 1.9 and 2.6 maunds per acre respectively, as against the official yardsticks of 0.8, 2.9 and 3.7 maunds, per acre. Thus, while the increased yield actually realized from seed was about the same as the official estimate, the increase from the use of manures was appreciably less than was assumed.

The results of this project led to rapid developments. In the rabi season of the same year, surveys for estimating additional production from improved seed and fertilisers were taken up in one district on wheat and in two districts on rabi jowar in Bombay State. In 1950, the surveys on seed and fertilisers for the rice crop were extended to six districts of Madhya Pradesh, nine districts of Bombay and all rice growing districts of Madras. Surveys for estimating additional production of wheat on tractor ploughed kans land were conducted in Madhya Pradesh and Madhya Bharat. An interesting survey to study additional production of rice from minor irrigation works was also carried out in three districts of Assam. During the current year, surveys on seed and fertilizers are in progress in U.P., Madhya Pradesh, Bombay, Madras and Orissa. Surveys on tractor-ploughed land cover practically the entire area ploughed by the Central Tractor Organisation in Madhya Pradesh, Madhya Bharat, Bhopal and U.P.

A survey of areas irrigated by wells in Bihar and another from other types of irrigation works in Assam are also under way. An all-India survey for a sample check of the various irrigation works including surface wells reported to be constructed since the initiation of G.M.F. campaign, has been planned and is expected to come into operation shortly.

It has been observed that the benefit from fertilisers was dependent upon rain fall. When it was poor, fertilizers did not give even half the additional production that was expected. The assumption that tractor ploughing of fallow land gives an increased yield of about one-third of a ton per acre has been found to be correct. The increase in yield from improved seed is definitely under-rated according to the official yard-stick, which assumes an increase of only 10 per cent from this source. The over-all position, to the extent it can be judged in the light of sample surveys carried out so far, appears to be that the actual additional production from the campaign is about 15 per cent less than calculated by the routine method.

The scope and coverage of these surveys is being widened. The possibility of improvements in technique is also under continuous examination. For this purpose, an Expert Committee of Agricultural Statisticians has been set up by the Food and Union Ministry of Agriculture. It has been scrutinizing the plans for sample surveys and reviewing their results from the beginning. An important recommendation of the Committee, which is being implemented as conditions permit, is that a set of experiments on seeds and manures should be carried out in those fields where these aids are applied under the supervision of the field staff, in addition to experiments conducted on fields reported to have received these aids.

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SUGAR IN FREE MARKET

New Delhi, January 3, 1952.

The Government of India have released for sale in the free market 4,700 tons of sugar. This represents five per cent of the quantity produced by 93 sugar factories in India upto December 7, 1951 during the current season.

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