



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Vol XV  
No. 1

ISSN 0019-5014

CONFERENCE  
NUMBER

JANUARY-  
MARCH  
1960

# INDIAN JOURNAL OF AGRICULTURAL ECONOMICS



INDIAN SOCIETY OF  
AGRICULTURAL ECONOMICS,  
BOMBAY



## TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMMES

B. L. AGRAWAL\*

*Farm Management Specialist  
Indian Co-operative Union, New Delhi*

The Community Development and National Extension Service is the largest single programme and represents a gigantic attempt to improve the life of the rural people. The programme, launched on October 2, 1952, has now been expanded to as many as 2552 development blocks covering 339,934 villages with a population of nearly 173 millions and is expected to cover the entire country by 1963. It covers all aspects of life—economic, social, educational, cultural, recreational, health, and organisational.

Needless to say, a programme of these dimensions needs a continuous evaluation. The programme Evaluation Organization was set up in 1952 to develop techniques of evaluation and to appraise the progress of the community development and national extension service on a continuous basis. The programme, being of central importance, has also been under constant evaluation through seminars and conferences, considerations in the Parliament and the State Legislatures, and examination by independent critics and students.

The object of this paper, however, is not to discuss the techniques of evaluation adopted by any organization or individual but mainly to help understanding and clear thinking on the process of evaluation as such.

### CONCEPT AND NEED OF EVALUATION

The term evaluation is derived from the Latin word "valeo" meaning "to value" or to find worth or quality of something. Evaluation, to a social scientist, means "a process by which the values of an enterprise are ascertained, or an analysis by which one is able to understand and appreciate the relative merits and deficiencies of persons, groups, programmes, situations, methods and processes. It is a method for determining how far an activity has progressed and how much farther it should be carried to accomplish objectives".<sup>1</sup> Stated broadly, evaluation may be considered as a process of determining the degree of success towards the attainment of the original and fundamental objectives—economic, social, cultural, and overall—of the rural development programmes; appraising the effectiveness of the organization, means and procedures pinpointing their strong and weak spots and the reasons thereof; and finally, proceeding to find out the extent and kind of changes that may be considered necessary to make in the organization, tools, and techniques so that the set objectives are accomplished within the stipulated time and with the resources earmarked for the purpose, as far as possible.

Depending upon the stage of development of a society, programmes or projects are evaluated on the basis of the following main things: (1) customs and

---

\* Any views expressed here are the responsibility of the author and do not necessarily represent the views of the organization.

1. Kelsey, L. D. and Hearne, C. C.: *Co-operative Extension Work*, Comstock Publishing Associates, Ithaca, New York, 1955, p. 218.

traditions ; (2) religious beliefs ; (3) authority ; (4) personal experience ; (5) reasoning from apparently self-evident facts ; and (6) scientific enquiry. All these six bases are important in their own way and the question is of not eliminating one or the other but of the extent to which a particular source may be used under the given conditions of purpose, time, money and personnel. In the age we are living today, *i.e.*, the scientific age, the general trend is towards placing more and more emphasis and reliance on the scientific method which involves "the logical thought processes based on the recognition of assumptions and definitions. It involves the collection and interpretation of data and the control of factors which might influence the result of an experiment, a study or an investigation."<sup>2</sup> The method is being increasingly applied to the problems in the fields of social sciences with various degrees of rigour depending upon practical conditions and usefulness of the results. Evaluation, then, means a process of identifying through use of scientific enquiry, methods and procedures that are actually happening as a result of a rural development programme and points at which a particular programme may be improved.

The importance of evaluation lies in the fact that it is useful in guiding rural development programmes. Some specific purposes evaluation serves are : (1) to determine whether the kind, extent and direction of changes affected are in line with the specific objectives of the programme ; (2) to check on the utility and effectiveness of organisational, administrative and supervisory machinery ; (3) to further clarify the specific objectives of the programme ; (4) to provide evidence of the value of the programme to the community, the State, and the sponsoring organisation ; (5) to identify the strong and weak points and provide guidance for improvement ; (6) to provide satisfaction, encouragement and confidence to the workers as well as leaders through a sense of accomplishment ; and (7) to serve as a guide in the execution and implementation of similar other programmes.

#### CHARACTERISTICS OF EVALUATION

Only a brief discussion of some of the basic characteristics or guiding principles of evaluation is attempted below :

(1) Evaluation is one of the five essential phases in the rural development process : (1) analysis of the situation, determination of problems and needs, and setting of objectives ; (2) preparation of a programme or plan for attaining the set objectives ; (3) programme execution involving the use of various tools, methods, techniques and devices ; (4) *evaluation* ; and (5) reconsideration of each of the other four phases.

(2) Evaluation is made at three stages of a programme. First, before the programme is started so as to establish a 'bench-mark'. Second, while the programme is in operation—could be several times during the life of the programme. And third, after the programme has completed its journey.

(3) Evaluation can be made only in terms of the objectives of a programme.

---

2. United States Department of Agriculture: Evaluation in Extension. Division of Extension Research and Training, Federal Extension Service, USDA, Washington, D. C., June, 1956, p. 1.

(4) Evaluation requires a scientific or systematic approach. It, however, should not be misunderstood to sound synonymous with only large and complex studies. Methods of evaluation range from everyday observations to rigorous scientific approach. Various degrees of evaluation may be divided mainly in three groups<sup>3</sup>: (1) *everyday observations*; (2) *informal studies*; and (3) *formal studies*. Conclusions drawn through any type of the above studies will be of no material value without the use of scientific method which implies a way of systematic and accurate thinking. Evaluation should be free from all personal or policy prejudices as far as possible.

(5) Evaluation requires the application of several different devices. No single device is appropriate to measure both the *tangible* and *intangible*, quantitative and qualitative or physical and psychological gains of a rural development programme. Devices or techniques for evaluation have to be developed in line with the kind of accomplishment that is to be measured, purpose for which the evaluation is made, and the resources of time, money and personnel available for the job.

(6) Evaluation involves the appraisal of both *methods* and *results* of a rural development programme. In any programme of development ends or results depend upon the means adopted and therefore, it is important to evaluate methods employed to achieve the ends as well as the results achieved under the programmes and thus establish some means-ends relationship.

(7) Evaluation should be made of both *tangible* as well as *intangible* benefits of a rural development programme. Tangible benefits are those which can be expressed in monetary terms, *e.g.*, increase in agricultural production, construction of roads and buildings, etc. Intangible benefits are those to which, generally speaking, no value in monetary terms can be assigned, *e.g.*, changes in the knowledge, interest, attitudes, skills, understanding, and behaviour of the people, which may, perhaps, also be called as *non-conventional outputs*.

(8) Broadly speaking, evaluation is to be made in terms of the cost-benefit ratios or input-output relationships. In strict economic sense, a project should not be taken up if it would not yield something more than invested. In case of scarce resources they should be used only to a point where the marginal revenue is the highest and should not strive for reaching the optimum revenue point, *i.e.*, where marginal revenue equates the marginal cost, because the over-all profits will be greatest if each unit of inputs is used where it will add the most to returns. However, in case of rural development programmes, adherence to strict economic considerations does not work because economic gains, while important, are only one of the several objectives of such programmes.

(9) Evaluation process involves the six major considerations.<sup>4</sup> (1) objectives of the programme; (2) action taken to reach the objectives; (3) collection, analysis and interpretation of valid and reliable evidence (data) showing what happened as a result of action taken; (4) comparison of actual and anticipated

3. *Ibid*, p. 3.

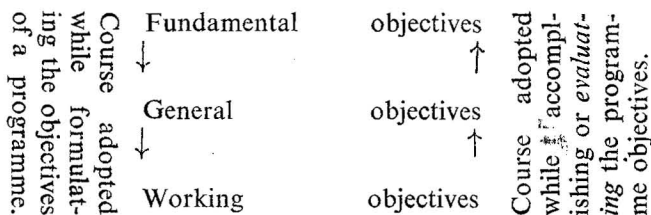
4. Leagans, J. Paul: Evaluation of Educational Programmes, (Mimeographed), paper presented to participants in All-India Work Seminar, Hyderabad, July 1959, p. 12.

results ; (5) drawing conclusions from the comparison ; and (6) using the findings to improve and guide future action.

FACTORS DETERMINING THE TECHNIQUES OF EVALUATION

Most important factors that determine the techniques of evaluation are : (1) objectives of the programme ; (2) purpose and scope of evaluation ; and (3) resources available for evaluation—time, money, equipment, and personnel (number, training, experience and attitude). Within the limitations of time and space, only the statement of objectives as essential criterion for developing methods and devices of evaluation is discussed here.

There are three main levels of objectives in a rural development programme : (1) Fundamental or primary objectives which may also be called the final or overall objectives ; (2) General but more definite objectives ; (3) Working or specific objectives. The setting or formulation of objectives begins at the top and works downwards to the bottom, *i.e.*, first the fundamental objectives of a programme are decided and then, the general and working objectives are worked out. But in attaining the objectives, the order is reversed, *i.e.*, working and the general objectives are achieved first, of course, always with a rifle man's eye on the fundamental objectives. What has been said about the accomplishment procedure is also true about evaluation. Evaluation always starts at bottom, *i.e.*, with the working objectives and works upwards to fundamental objectives, as shown in the diagram below :



Under each level of objectives, there are three main types : (1) Educational ; (2) Economic or material ; and (3) Social.

In the First Five-Year Plan, Community Development was described as the method and rural extension the agency through which the process of transformation of the social and economic life of villages was to be initiated.<sup>5</sup> The life being an integrated whole, community development is an integrated approach to the multi-problems of rural areas, *e.g.*, economic, social, cultural, educational, recreational, health and organizational. Its objectives may briefly be stated as follows :

1. *Fundamental Objectives:* To raise the economic, social, and cultural level of rural India.

---

5. Report on the First Five-Year Plan, Planning Commission, Government of India, New Delhi, 1952, p. 223.

2. *General but more Definite Objectives:* (a) To make farms paying units of farm business, (b) To make prosperous homes and happy families, (c) To provide larger and efficient public services—educational institutions, health units, village councils, co-operative organisations, etc.

3. *Working or Specific Objectives:* It is difficult to talk of working objectives in detail here but some of the major ones are : (a) to increase and improve the input factors of production—conventional as well as non-conventional. Conventional inputs include land, labour and reproducible capital, and the non-conventional inputs comprise the efforts and capital allocated to develop the *quality* of the people as productive agents, and to improve the *level* of productive arts, *i.e.*, techniques of production. Even more important than the increase in the factors of production is their proper allocation and utilisation ; (b) to improve food, clothing, sanitation and comfort ; (c) to establish and improve co-operatives, schools, and health centres ; construct and repair wells, roads and other means of transport and communications ; (d) to develop organisation, group skills, leadership, and community spirit. Each working objective can be achieved only through carrying out a multiple of activities and each of these activities may be called a smaller and finer objective. For example, improvements in soils, equipment (seed, manure, implements, etc.), techniques and methods of farming, irrigation and drainage conditions all are pre-requisites to an increase in crop production.

#### TECHNIQUES OF EVALUATION

The statement of objectives of the community development and national extension programme in the foregoing specifies the changes that are expected to result from its execution. In order to ascertain whether the intended changes are taking place or not, two questions have to be answered : (1) what evidences would indicate a particular change ; and (2) how to measure these evidences ?

Evidences of change brought out by a rural development programme are of two types ; one, *tangible evidences*, *e.g.*, increased production, larger incomes, increased employment, number of schools and hospitals opened, miles of roads and canals constructed, etc. ; and second, *intangible evidences*, *e.g.*, improvement in the *quality* of the people as productive agents which means improvement in the skills, knowledge and attitudes of the people ; and improvement in the level of productive arts, *i.e.*, improved methods and practices or techniques of production, etc. The good approach is to study the objectives in detail and make a list of all the kinds of evidences implied by them.

The measurement or appraisal of these evidences requires a careful selection and development of suitable devices and procedures for collecting data. There are numerous types of devices and procedures that are helpful but all would not fit all conditions and objectives. Moreover, the same devices would not work both for tangible as well as intangible evidences. It is easier to measure the changes having tangible evidences.

So far, the *major consideration* by the evaluators has been given only to the measurement of changes having tangible evidences, may be due to the fact that

they are easy to measure or may be because the importance of the intangible benefits has not been duly recognised and appreciated. Whatever may be the reasons, it may be stated here that intangible benefits are as much important as the tangibles or even more and due consideration should be given to their measurement. Intangible benefits are in most cases essential prerequisites to tangible benefits and therefore, they are important in short-run as well as in the long-run. But, in the long-run, intangible benefits become more important for a steady and continuous national progress, whether it be economic, social or cultural because spoon-feeding of the people by the State with any amount of resources at its command cannot continue indefinitely, and even if it could, it would not bring lasting results. These are the intangible gains which would guarantee a continuous and faster increase in the tangible benefits. People, in a large measure, have to stand on their own feet and for that, a change in their skills, knowledge, attitudes and behaviour is most important. In the United States, for example, it has been observed that only about one-fifth of the rise in output can be explained by more inputs of the conventional types ; the remaining four-fifths seems to have come about because of *improvements in national efficiency*.<sup>6</sup> It evinces that the intangible benefits in the long-run become very important. And thus, it is very necessary that the intangible benefits of a rural development programme are also properly appraised. This is also sounded in the recommendations of the Agricultural Production Team, "there should be greater emphasis placed on the study of the attitudinal factors involved in programme planning and execution... Of special importance at this time is the understanding of the attitudinal patterns of farm families that might limit or aid the more rapid adoption of new ideas for increased food production."<sup>7</sup> The fact was also recognised at the Annual Conference on Community Development at Mount Abu (May 1958) when they said that the issues involved in peoples' participation in the programme require thorough study by all concerned.<sup>8</sup> The PEO's recent study<sup>9</sup> on the acceptance of selected farming practices and the attitudinal factors related to adoption and non-adoption, satisfaction and dissatisfaction and reversions is, perhaps, the first attempt to explore some aspects of attitudes. But, if this area is to be effectively studied more precise concepts, tools of measurement, and field techniques will have to be used.

Limiting the scope of the paper here only to the evaluation of intangible benefits the question posed is 'how to go about measuring them'. Although definite monetary values cannot be assigned to these benefits and they, unlike the tangible benefits, cannot be evaluated in terms of cost-benefit ratios or input-output relationships, they should be clearly expressed in qualitative terms and, if possible, related to such quantitative factors as the number of people trained, number of improved practices adopted, extent of people's contribution in terms of money as well as labour, quantity of improved seed sown, etc. Another me-

---

6. Schultz, T. W.: *The Economic Test in Latin America*, Bulletin 35, New York State School of Industrial and Labour Relations, Cornell University, Ithaca, New York, August, 1956, p. 19.

7. Report on India's Food Crisis & Steps to Meet It, The Agricultural Production Team sponsored by the Ford Foundation, Government of India, New Delhi, 1959, p. 244.

8. Annual Conference of Community Development at Mount Abu—Main Recommendations and Conclusions, Government of India, 1958, p. 66.

9. The Fifth Evaluation Report on the Working of Community Development and N. E. S. Blocks, Programme Evaluation Organisation, Delhi, May, 1958, pp. 62-98.



thod that may be tried through case studies is that the rise in output where it exceeds the additional inputs of the conventional type may be assumed to come from an improvement in the *quality* of the people as productive agents and rise in the *level* of productive arts.

Some of the devices that may be used to measure the intangible benefits in qualitative terms are<sup>10</sup>: (i) *Value Scales*—to determine the value people place on things and to show that what people think is important; (ii) *Attitude Scales*—how people feel towards things, whether they are for or against certain questions, social facts or problems ; (iii) *Knowledge and Comprehension Tests*—when it is important to find out whether a person understands or can apply certain acquired knowledge, comprehension must be tested ; (iv) *Interest Checks*—to find out in what people are interested. The level of interest may be checked by what are termed paired lists of activities or topics ; (v) *Skills or Performance Ratings*—to determine the amount of skill attained ; (vi) *Adoption of Practices*—to find out merely if certain things are being done, by whom, how many, and how often. Some such other techniques can also be thought of.

Finally, any tools or techniques are as good as others which can measure accurately, as far as possible, the changes brought out by the development programmes, be they economic, social or cultural.

#### CRITERIA THAT THE TECHNIQUES OF EVALUATION MUST SATISFY

Any technique or device used to evaluate a rural development programme must meet the following tests to be fully effective and useful : (1) *Validity*—the device should measure that which an evaluator wants to measure. In other words, it should provide evidence to the problem an evaluator wants to solve. Validity poses to the question 'is it the truth'? ; (2) *Reliability*—the tools and the techniques may be considered reliable if the same were so formed that when the test is given several times under the like conditions the results would be about the same. This concerns primarily with the drawing of a sample. The sample should be large enough and sufficiently representative to warrant drawing conclusions regarding the total population ; (3) *Objectivity*—the instruments and devices in use should be free from any personal prejudice or bias which means that the results achieved through them will not vary if they were used by different people ; (4) *Practicability*—the instruments and procedures selected for use should be within the realm of possibilities in terms of resources of time, money and personnel, and well balanced against the probable value of the results ; (5) *Simplicity*—simplicity does not mean brevity. What it means is that the techniques, forms, and procedures should be easy to use, easy to be readily understood by the respondents, and easy for being tabulated, summarised, and reported. Taking an example of a questionnaire to be used in a study, the questions therein should be short, clearly stated, to the point, and arranged in a logical order.

#### CHANCES FOR AND EXTENT OF ERROR IN EVALUATION

The magnitude or degree of error in the assessment of a programme depends upon a number of factors like the nature of the results measured, quality and type

10. Kelsey, L. D. and Hearne, C. C.: Co-operative Extension Work, *Op. Cit.*, p. 222.

of the tools used, efficiency index of the procedures and methods adopted, and training, experience, and judgement of the evaluator. But even under the most ideal conditions, it is impossible to eliminate the chances of error altogether, more so, in case of rural development programme where the number of variables is so large and their nature so intricate and complex to be subjected to any rigid control. This as such should not be an item of discouragement to any of the workers in the field because what they have to keep in mind is not the hundred per cent accuracy of the results but 'how accurate a measurement they really need' keeping in view the purpose and use of the measurement and evaluation. In evaluating rural development programmes, neither it is possible nor warranted to strive for mathematical accuracies of the results. However, it should also not be misunderstood to mean that a case for complacency is being pleaded here. No, not at all. What is driven at is that while there should be an earnest desire and will on the part of the evaluator to reduce the error to a point where this error is insignificant for practical use and the conclusions drawn will not mislead the evaluator himself or anybody else interested in the results, no time and effort need be wasted for higher degrees of accuracy because it is not worth it. It is difficult to quote any definite figure for 'tolerable error' in the evaluation of a programme because it would differ from one programme to another keeping in view the time and effort devoted to the act of evaluation, and also from one aspect to another under the same programme depending upon the nature of the results achieved therein. It may be shown through the following examples. If one, through a careful survey, finds out that about 45 per cent of the farmers in his project area have adopted the use of improved seed and that the error is 5 per cent which means that the figure might be as low as 40 per cent or as high as 50 per cent, he could easily state that 45 per cent or rounding up the figure nearly half of the farmers in his project area are using improved seed. This degree of accuracy is probably sufficient for the type of information required on this aspect of the programme and it would not mislead anybody. But, if the error were 25 per cent in the above example which would put the minimum and maximum figures at 20 per cent and 70 per cent respectively, any conclusions drawn from this would not be worth much. However, taking another example, if he were to find out the percentage of the people in a region who know what the Community Development and National Extension Service is and what are its aims, and supposing he had come with the same figure of 45 per cent and an error of 25 per cent which would again put the minimum and maximum figures at 20 per cent and 70 per cent. Is the error large? Yes, but it would not be misleading or matter much in this case if he said that at least one-fifth of the people in the area knew what the Community Development and National Extension Service is and what are its aims, because the answer sought in this case cannot be measured so specifically as in the case of previous example. In other words, the range of 'tolerable error' would depend upon the degree of precision with which a particular aspect can be measured. In any case, the evaluator has always to use his judgment in predicting the results or drawing conclusions from an evaluation study, and he should better use the figures on the conservative side than the ones on the optimistic side.

To sum up, evaluation is one of the five essential phases in the rural development process. It is a process of identifying through scientific enquiry, methods and procedures as to what is actually happening as a result of a programme and what, if any, adjustments need to be made. It involves six major considerations :



(1) objectives of the programme ; (2) action taken to reach the objectives ; (3) collection, analysis and interpretation of data ; (4) comparison of actual and anticipated results ; (5) drawing conclusions ; and (6) using the findings to improve and guide future action. The objectives of the programme, purpose and scope of evaluation, and availability of resources for evaluation would determine the techniques of evaluation.

---

## EVALUATION OF RURAL DEVELOPMENT PROGRAMMES\*

P. C. BANSIL

*Planning Commission, New Delhi*

Rural India with 82 per cent of the population of the country but something like 50 per cent of the national income depicts a picture of gross inequality as compared with the urban sector. Huge sums of money are being ploughed and have been ploughed in this sector so as to bridge this gap. All this, however, seems to have made little impression so far ; hence the need for a proper evaluation of rural development programmes.

Agriculture in the rural sector is not only the major occupation or a profession for the people, but is also a tradition and a way of life which for centuries has shaped their thought, outlook and culture. We will thus restrict the scope of this paper to agriculture and the cultivator alone.

Before examining the evaluation machinery, it would first of all be necessary to understand the content of agricultural development and the present position with regard to the various constituent factors. The success of an agricultural programme will be judged by the achievement of visible physical outputs or what we call the creation of a set production potential. As for the cultivator, the index of his prosperity will be an improvement in his standard of living which is, in fact, closely related with higher agricultural output.

### PRESENT POSITION

The effect of various land improvement schemes in India is calculated at present by the aggregate production figures for various crops represented by the agricultural production index. This index was first issued in 1949 with the period 1936-37 to 1938-40 as the base. The series then covered 19 crops and was based on the weights during the pre-war triennium. It has recently been revised with the year 1949-50 as the base and comprises 28 commodities for which crop forecasts are regularly issued or firm estimates of production are available. The value of production during 1949-50 has been taken as the weight and the index number is computed as a weighted arithmetic average of the production relatives for individual crops. In working out the production relatives, the chain lease method;<sup>1</sup> has been adopted to allow for changes in coverage as well as the method of estimation.

---

\* This represents the personal views of the author.

1. Formulated on Laspeyers's method with little modifications.

Besides this, data about the distribution of various endogenous factors like fertilizers, manures and improved seeds, etc., are issued in what is known as GMF Statistics. These individual input factors are multiplied by the standard yardsticks. The resultant figures added together represent the production potential.

Changes in the standard of living can be calculated by the national income forecasts released every year. Per capita incomes are then estimated on the basis of assessed population for the year. Income from agriculture, animal husbandry, forestry and fishery which constitutes a separate head in the National Income data, is estimated by the "Inventory" or the value of net product method. Output estimates are first valued and then necessary deductions are made for netting the value of this head.

#### EXISTING LIMITATIONS

The preceding paras give a bird's eye view of all the existing indicators for evaluating rural or to be a little more precise agricultural development programmes. All the three sets of figures though very much improved in quality as well as quantity in the post-independence decade still suffer from a number of handicaps to qualify themselves as sufficient enough for the needs of a developing economy. Even if we succeed in making them more reliable, they alone will not be sufficient for a proper evaluation of agricultural development. A brief discussion about each one of them follows.

#### *Production Index*

The basis for this index is the production forecasts which are not yet upto the mark both qualitatively and quantitatively. Of the 720 million acres of area for which land utilisation statistics are available, 147 million acres (roughly 20 per cent) are without any reporting agency. This big chunk is neither covered by complete enumeration nor any Sample Surveys. The result is that different sets of production figures are available for a number of cash crops like cotton, tea, coffee, rubber and tobacco ; commodities for which trade as well as official estimates are available.

Data about fruits, vegetables, and animal husbandry products, like milk, meat and eggs as well as fishery is not worth anything. It would be of interest to know that as regards inland fisheries, production data include only the marketable surplus. Fish caught and directly consumed by the 30 crores or odd villages is not at all reflected. This was computed at about 2/3 of the marketable surplus by the National Income Committee.<sup>2</sup>

Such like protective foods which may not be of much significance in the production index, are of vital importance in determining the changes in the dietary habits of people.

#### *Production Potential*

The position in this regard is still worse. This consists of two components—GMF Statistics and yardsticks. The GMF Statistics are not based on any input

2. Report, p. 9.

data survey. The quantity of manure supplied or irrigation facilities made available, for example, will depend on the money spent from the Government budget on these accounts. If the total amount earmarked for say, well schemes is  $M$  and  $X$  is the cost involved per unit. The number of wells assumed to have been dug is the resultant of  $M/X$ .

The biggest assumption made is that a specific input factor has been properly utilised to reflect itself in the final output. There is, however, a serious lacuna under such an assumption. It is not necessary that the number of pits dug in a village give a measurement of the quantity of manure applied. Everyday observation and findings of the Grow More Food Enquiry Committee confirm that the pits dug are not filled with dung, but pollute the countryside and spread malaria due to the germination of mosquito on stagnant water. Similarly loan given for digging or repairing wells is not the same thing as irrigation facility provided. As for improved seed, the less said the better. Genuine complaints have been raised in the public and the press that the 'so-called improved seed' supplied to the cultivator is worse than the ordinary seed. The utility of GMF Statistics as they stand at present is thus quite doubtful.

There is another organisation—the Programme Evaluation Organisation—which needs a mention here. The Programme Evaluation Organisation, as it is commonly known, is supposed to evaluate the developmental activity under the Plans. They have no doubt brought out some very valuable reports which are, however, much limited in scope for the purpose under discussion.

As for the other component—yardsticks—firstly they are not available for all the crops. Secondly they are not very reliable and thirdly they do not represent the integrated approach. In actual farming the output represents the combined effect of all the input factors. Any yardstick to be useful has, therefore, to be of an integrated nature for irrigated as well as the dry areas separately.

In 1953-54 when food production went up by 12 million tons as compared to the base year 1949-50, an effort was made by the author to work out the contribution of planned effort according to existing yardsticks. On a very liberal estimate it came out to hardly 3 million tons.<sup>3</sup> This only brings to focus the futility of the whole approach.

### *National Income*

Since agriculture along with the allied rural sector accounts for more than 50 per cent of the national income and basic data about this sector are most scanty as well as unreliable, it is very difficult to formulate a correct idea about the real prosperity of the cultivator in a given period of time.

A direct indicator in this respect would, however, be a sort of 'Prosperity index' based on family budget surveys which provides the physical consumption data of various commodities for different income groups. While a very useful work in this direction is being done by the NSS in their different rounds, in the final analysis they also fail to come up to the task. The data released by them

---

3. Cf. Food Statistics, P. C. Bansil, in *Sankhya*, December, 1956.

besides having a very big time-lag keep back the physical content. They can help, if at all, to have an idea of the expenditure elasticities of demand and not the quantity elasticities which are more important for us.

#### PRESENT NEEDS AND REMEDIES

From what is stated above, it is obvious that the existing indices and other data are far too insufficient to meet the requirements of agriculture in a developing economy. It would be wrong to suggest that they are useless. They fill a very important role when even one-tenth of this was not available some ten years back. Our demands on agricultural data are rising so fast that the existing machinery which was originally geared to normal conditions has failed to keep pace with the rapid economic development.

It may be argued that the limiting factor in this case is the shortage of specially trained technical personnel. That may be true to some extent. But even the limited staff at present engaged in Universities, State and Central levels, should be sufficient to supply necessary data if properly organised. The great need in this area is for quantitative applied research which in fact provides guidance for and answers to the agricultural economics problems of India. But as against this the present day research is of too highly descriptive type and census taking nature.

A high level Committee would perhaps be needed to analyse and synthesise the existing research programmes both in the fundamental and applied sides. The Committee will then have to draw up a model outline for all future research so as to avoid duplication as well as unnecessary waste of labour on the type of work being done now.

The first and foremost task is, of course, the correct measurement of production and productivity as well as the degree of intensity in terms of increased inputs.

As for production, it would be useful if we establish a standard which would through reducing farm products of different kinds to a common denominator, enable us to sum those products up and represent them in a single quantity or value. The existing agricultural production index, intended to serve the same purpose, is not quite helpful as already stated. Different countries are working on a number of indices like:

1. calories and starch values,
2. crop units and
3. grain units.

Any one of them singly may not be able to answer all our problems, but after thorough scrutiny, we might be able to perfect one or a set of a few of them, with or without necessary modification as the need be. Faced with a similar problem as we are today, during the Second World War, the German Government of the day evolved the method of grain units. Such units are capable of providing the most objective estimate possible of agricultural production, not only for a given farm, but also for a village, a taluka or a district. This is actually what is needed

today when the national targets for each commodity are intended to be broken right down to the village level.

Production is estimated on the basis of crop yields after deducting seed and also fodder for drought cattle. The net yield is further divided into three parts as follows : (1) produce sold in the market, (2) produce used to feed the family, and (3) produce used as fodder or in processing.

The estimate for each of these categories is given in grain units. The value of the unit of individual products is determined on the basis of the average starch values of the four basic cereals. Other crops which do not serve as food or as fodder crops are assigned grain units on the procedure of relative utility value. Animal products are estimated in accordance with the reproduction value, *i.e.*, the quantity of fodder used, expressed in grain units, which is required for the production of the estimated product.

A modification of the grain units discussed above can be to adopt caloric value in place of starch value. With this approach produce used as fodder under item (3) above can be conveniently excluded to avoid double counting. Non-food crops which are included in the existing production index, may very well be omitted if so decided.

#### PRODUCTION POTENTIAL

With regard to the production potential, the whole system needs to be completely overhauled. First of all it would be necessary to have separate yield statistics for irrigated and dry areas as well as areas where dry farming practices are being introduced. This need not have a new organization. What is needed is a proper stratification of the crop cutting experiments aimed at finding these data separately.

This having been done, it would be extremely necessary to collect the farm input data from the primary source. All the existing organizations like NSS, the Benchmark Surveys of the PEO Farm Management Studies, etc., will have to be geared for this service. An analysis of the 'farm input' data thus prepared will, besides giving a reliable measure of the production potential released, serve the following additional purposes : (1) a counter check on the production index; (2) a counter check on the yard-sticks now in use. It may be easy to evolve integrated yardsticks about which there is a lot of talk these days; and (3) will bring out the wastages and non-utilisation of the resources on which financial outlays have been made.

The existing agricultural production index, coupled with the grain index and 'farm input' approach may prove as quite handy for studying the impact of various activities envisaged in the planned development of agriculture.

Yugoslavia has established an Institute of Farm Management which has carried out a number of experiments to determine production function. In India, the establishment of such an independent Institution may be of great value. It would be fully qualified to undertake research of the type now under considera-

tion. The scope of the Institution, if and when established, may have to be restricted to the handling of only those problems which are significant for the effective organization of agricultural production in the whole of the country. Regional problems may be dealt with by the competent regional Institutions.

The phenomena studied by agricultural economists are the results of the interaction of a number of factors. This interaction changes in space and time. Moreover, in the process of development, the meaning of this interaction may also change in so far as consequences and causes are concerned. New factors thus appear during the development process. In all our methods of research, conscious distinction may have to be made between three stages : orientation, analysis and synthesis. The results must help us in reaching the conclusion from the micro and macro-economic points of view.

This alone may not be all that is needed. We might also be required to construct separate independent indices and on coefficients on subjects like :

1. Crop nutrients required for a given production target.
2. Conversion of the livestock population into a single unit for purposes of
  - (a) supply of manures
  - (b) food and fodder requirements.
3. Quantity elasticities of demand.
4. Separate income data for rural and urban India.
5. A scientific study of adult equivalents.

The method adopted in the first and the second plans wherein the contribution of various input factors including manures/fertilizers is shown in the case of foodgrains alone, does not show any direct co-relation with the actual quantity of these crop nutrients required for the achievement of given production targets for the different crops. An attempt may fruitfully be made for the construction of such an index on the basis of crop removals with some necessary safeguards, with say 1955-56 as the base.

In a developing economy where our cattle are going to occupy a place of pride, they cannot remain ignored as at present. They have to be properly fed and managed if they are to make their full contribution. Provision will have to be made in the targets for their feed requirements in terms of specific outputs of milk, meat and eggs, etc. This is possible only if we have reliable records about cattle population and their break-up into various age groups and utility groups. The whole of this population will then have to be converted into different cattle units for the different purposes as mentioned above.

Family budget data both in value and quantity carefully collected over time and space is the only approach for an accurate calculation of value as well as quantity elasticities of demand for different commodities. They will help not

only to project our demand forecasts accurately but also serve as an independent check of production data from the consumption end. Studies under items 4 and 5 above conducted on scientific lines will also help to make our research tools more useful, reliable and handy.

### *Conclusion*

We have discussed in these few pages some of the problems we have to face in a proper evaluation of agricultural economic development and some general points by way of improvement over the existing situation. Nothing more than broad indications which in themselves can, under no stretch of imagination, be considered as comprehensive, could be given in this paper. The matter needs to be very carefully examined before any policy decisions can be taken for their implementation.

---

## TECHNIQUE OF EVALUATION OF RURAL DEVELOPMENT PROGRAMMES

K. P. JAIN

*Lecturer in Economics*

*Sheth G. B. Podar College, Nawalgarh*

Evaluation is a novel concept. Broadly speaking, evaluation connotes measurement, appraisal or assessment of progress made in any programme. It is a process of analysis which turns the searchlight on "the relative merits and deficiencies of persons, groups, programmes, situations, methods and processes" with a view to improving the operational efficiency of the undertaking and determining how far it has progressed and how much further and in what way it should be carried to achieve the objectives. It is not merely census recording but implies also fundamental research, the findings of evaluation provide valuable guidance to field workers.

### WHY EVALUATION ?

Evaluation is needed to lay the finger on the pulse of the programme. Really speaking, it is now regarded as an important and integral part of the organisational apparatus of any developmental programme. This has to be attempted as without it, it is likely that many schemes would go amiss. Organisations that neglect evaluation risk decay.

I have taken community development programme for consideration and as such evaluation is pondered over in that context.

"As effective programmes can only develop from knowledge and understanding of the conditions and problems which exist within a country, competent research and objective evaluations provide the necessary data and contribute to continuous improvement of methods of operation of programmes. Community development being essentially a human problem requires a study of people's attitudes and degree of participation, and constant checking and adjustment of



methods of working with people. Such a continuing process of evaluation is the best guarantee that the objectives of the national programme will be kept flexibly adjusted to available resources and to the realities of the administrative machinery."<sup>1</sup>

#### SOME FUNDAMENTALS ABOUT EVALUATION

Evaluation can be undertaken by persons and organisations directly connected with the execution of the schemes. But such assessment is likely to be subjective and bias-ridden. Hence, to be objective and reliable, it has to be undertaken by an agency which is quite independent of the programme.

Evaluation is to be done, as is clear, in relation to the goals and objectives of the programme, otherwise it would carry no sense. To quote Brunner and Yang, "The appraisal of any institution must be done in the first instance in terms of its objectives. Only then is it proper to ask whether these objectives have been the proper ones in the light of the needs of the society in which the institution existed. It is then proper to inquire if the institution under review has any contribution to make to other institutions or other societies. Finally, questions as to the future may be explored."<sup>2</sup>

Let us also have some thoughts on the implications of the word 'development', otherwise we will risk evaluation to become narrow and lop-sided. Development has both objective and subjective implications. It is objective because it can be measured in terms of growth indicators. It is subjective in the sense that it is also reflected in the attitudes, the response and the participation of the people concerned. Quantitatively one may notice largeness on all fronts, but the people may not feel better for that. Again, "Man may be less happy with a greater dose of welfare than he was with less."<sup>3</sup> Here lies the rub in assessing the development. The technique of evaluation will become one-sided if it cares only for the quantitative aspect of development, an equal emphasis has to be laid on the qualitative aspect as well. The question is not of one, but of both. We have to measure not only the obvious, but should also fathom beyond the obvious.

Even at the risk of somewhat repetition, it is worthwhile to quote the following: "The evaluation must distinguish between two types of growth: (1) the type of growth which can be expressed quantitatively and measured, and (2) the internal rearrangement i.e., the process of maturing. It is comparatively easy to measure the growth which can be expressed quantitatively, whereas measurement

---

1. Social Progress Through Community Development, United Nations, Bureau of Social Affairs, New York, 1955, p. 75.

Cf., "Purposes of evaluation are to assess the relative merits of various techniques and approaches, to reveal the strength and weakness of individual programmes and to judge the effect on community life and relation. Evaluation also has a competitive value to stimulate effort in individual programme."

Report of the Mission on Community Organisation and Development in South and South-East Asia, United Nations, December, 1953, p. 60.

2. Brunner and Yang: Rural America and the Extension Service, Bureau of Publications, Teachers College—Columbia University, New York, 1949, p. 147.

3. "The Relation Between Progress in Economic Welfare and Human Progress in a Broader Sense" by Henri Guitton, p. 13, in Economic Progress, Papers and Proceedings of a Round Table held by the International Economic Association, Edited by Leon. H. Dupriez 1955, *Institute De Recherches Economiques Sociales*: Quoted by Mrs. Hemlata Acharya in 'Techniques of Evaluation of Programme for Rural Development' in A. I. C. C. *Economic Review*, January 9, 1959, p. 65.



of internal rearrangement is difficult. In the latter the factors that affect a programme have to be described in general terms giving due weightage to the different factors.

“Much of the current evaluation is confined to quantitative measurement. This is conceiving evaluation in a very narrow sense. Evaluation, in its broader sense, should include in addition to measurement, an appraisal of results obtained in relation to the principal objectives of the project evaluated. Accordingly, the analyst must present data as well as an interpretation as to what the statistics mean in relation to the objectives for which the programme was organised. This will mean that the measurement will have to be made against certain values. Thus conceived, the method of evaluation will tend to be both statistical and sociological.”<sup>4</sup>

#### COMMUNITY DEVELOPMENT PROGRAMME

In this paper, under the programme of rural development, Community Development Projects have been taken up for consideration. It is an all-embracing programme for rural area, and as such the technique of evaluation will reflect only broad contours. But before evolving a technique, we must know the objectives of Community Development Programme, as it is fundamental to an assessment.

The Planning Commission, in their First Five-Year Plan, described Community Development as the “method through which the Five-Year Plan seeks to initiate a process of transformation of the social and economic life of the villages.”<sup>5</sup> “This method is to process the development of the area through people’s own democratic and co-operative organisations, the Government helping only with technical advice, supplies and credit.” It is “designed to promote better living for whole community with the active participation and, if possible, on the initiative of the community; but if this initiative is not forthcoming, by the same use of techniques for arousing and stimulating it in order to secure its active and enthusiastic response.”<sup>6</sup> These community projects started as “Government Projects with People’s Participation” are ultimately to be changed into the “People’s Projects with Government Participation.”<sup>7</sup> To put it differently community projects aim ultimately a transformation from “Government-motivated self-help to self-motivated self-help.”

#### TECHNIQUE OF EVALUATION

The total dimensions of a technique or a set of techniques for the evaluation of community development programme should comprehend two things:

(A) Firstly, quantitative measurement through traditional growth indicators, *e.g.*, change in income, output, employment, etc.

4. ‘Extension and Evaluation’,—Under the chapter ‘Introduction’, Allahabad Agricultural Institute, Allahabad, December, 1957.

5. Report on the First Five-Year Plan, p. 223.

6. Community Development Programmes in India, Pakistan and Philippines (1955), p. 8, Quoted by Balwantrai Mehta Committee on Plan Projects, p. 1.

7. Random Thoughts, Vol. I, issued by the Community Projects Administration, Government of India, May 1956, p. 96.

(B) Secondly, assessment of people's participation, attitudes and response to the programme.

(A) *Growth Indicators*

Now let us first take up the traditional growth indicators:

(1) *Change in income (per capita as well as total)*: This will help in knowing the direction and trend in the expansion of productive capacity in general, expansion of output in food crops and other than food crops, investment under various heads and their returns, extent of rural industrialisation and degree of monetisation.

(2) *Increase in employment and reduction in disguised unemployment*: No doubt it cannot be assessed by itself as it is connected with the first. In the context of agriculture this will help us to know the opportunities for gainful employment, to project the release of labour force for other occupations, to know the return on investment in cottage industries.

(3) *Output on farms and in rural industries*: By measuring the output per worker and per capita investment we shall get informed about the potentialities of the growth of cottage industries and agriculture.

This criterion will be helpful in another significant way, it will indicate the rate of capital formation and the surplus generated. The measurement of capital formation in the agricultural sector is a vital factor in the economic development of a country.

The index of output has a wider coverage and deeper implications. It will also serve as a very effective barometer of the progress in transport, irrigation, credit and market organisation and innovations in social, economic and technological fields because output is closely connected with these factors.

(4) *Progress in the field of social welfare measures*: We have to promote not only 'ecfare' (individual economic welfare) but also total welfare and as such measurement of success in the fields of education, family planning, water supply, health and hygiene, etc. is, a desideratum. Moreover, all these have an important bearing on the efficiency of the people.

(5) *Rate of population increase and its occupational distribution*: This index has a deeper implication in the context of under-developed country like India where population is increasing fast. We have to assess what extent the family planning is resorted to and whether people are prepared to adjust their family life so as to maintain the new standard of living. As a matter of fact the family planning programme is to be considered as a part of the wider programme of the rising standard of living.

(6) *Relation between rural and urban sectors*: We should assess the distribution of income, employment and output between these two sectors. It is to be inquired into whether the programmes have contributed in generating surplus as well as mobilising it, and whether the market for industrial goods pro-

duced in the rural sector is growing or not. In other words, we will have to take note of ever-increasing mobility of capital, labour and commodities between the two sectors.

(B) *Assessment of People's Attitudes, Participation and Response to the Programme*

In addition to quantitative and economic assessment of the community development programme, it is vital to attempt a penetrating evaluation of the people's attitudes, participation and response to the programme and of the social consequences of the development projects in sociological terms.

Hence, "the basic conceptual framework of evaluation" says Dr. S. C. Dube, "needs some modification to enable sociological and anthropological points of view to make their contribution to this field.... The social scientist could undertake to develop short-term and long-range evaluation techniques, both of the qualitative and quantitative type." Dr. Dube further elaborates: "The social scientist should study the response of the people through different stages of the implementation of the project, beginning from the initiation of an idea to the intensification of its implementation. A post-project survey would also be invaluable.<sup>8</sup> The data gathered in these investigations, when analysed would give to the planners a clearer picture of the problems and possibilities of the project. It would show the area of resistance and co-operation, and bring into sharp focus the social and cultural determinants that help or hinder the programme. In the light of this evidence it would be easier to determine how tradition, attitudes and values and factors of social organisation and group dynamics affect the programme."<sup>9</sup>

In the above context one point needs more elaboration. It is not sufficient to assess the total participation of the people of a certain area served by the programme; but it is equally important to discover why different strata of the population concerned react differently to the projects. Without such guides, extension efforts to increase participation will be built without significant knowledge of some of the most important factors determining participation. "The approaches to extension research, therefore, must recognise the wide variability in human characteristics which typify the extension 'classes.' Reasons must be found why different strata within the total population served react differently to the methods and procedures used by extension. It is not enough to measure total participation."<sup>10</sup>

It is also of tremendous importance to evaluate whether a new leadership in the area concerned and villages served by the programme is emerging which is

8. Cf. "The emphasis in the statistical as well as the analytical reports should be not merely on the starting of activities, but also on their maintenance, growth and quality. For instance, they should not only indicate how many centres have been set up or how many acres of land planted with trees, but should show clearly how many of them are surviving and how many are being properly maintained." — Report of the Team for the Study of Community Projects and National Extension Service, Vol. I, p. 59.

9. Dube S. C.: *India's Changing Villages, Human Factors in Community Development*, Routledge and Kegan Paul Ltd., London, p. 155.

10. Joint Committee Report on Extension Programmes, Policies and Goals, U.S. Department of Agriculture and Association of Land-Grant Colleges and Universities, Washington D. C., 1948, p. 7.—Quoted by Brunner and Yang: *Rural America and the Extension Service*, p. 168.

capable of carrying forward the work initiated by the projects. This is fundamental as the planning, execution as well as evaluation of the community development must ultimately rest mostly on the shoulders of the village leadership.

Recently in India, Programme Evaluation Organisation has given its attention towards the assessment of social change and has published the criteria of assessment and the results in the Fourth Evaluation Report. Being first attempt, it is of a preliminary nature. The Programme Evaluation Organisation had selected the following six criteria for the basis of such a study :<sup>11</sup>

- (i) Awareness among the rural people of possibilities of improvement through adoption of scientific methods in various fields of activity—agriculture, animal husbandry, health and sanitation, cottage industries etc.
- (ii) Confidence in their ability to adopt these practices.
- (iii) Realisation of advantages of co-operative action.
- (iv) Community life.
- (v) Understanding and co-operation between the officials and non-officials.
- (vi) Awareness of possibilities of economic and social improvement through the development programmes and a feeling of participation in these, among the under-privileged groups.

The report has put emphasis “on determining the changes in attitudes and ways of thinking among the people. These changes in attitudes have inevitably to be expressed in concrete terms—adoption or rejection of a particular practice, success or failure of a co-operative venture of a community effort, the working of an institution in which officials and non-officials come together etc., etc.”<sup>12</sup>

Following are some of the current methods and devices of evaluation :

- (i) To determine the importance and value people place on things. (Value Scale)
- (ii) To determine how people feel towards a particular social programme or problem. (Attitude Scale)
- (iii) To determine the replies, in ‘yes’ or ‘no’. (Opinion Poll).
- (iv) To find out if a person understands and can apply the knowledge taught. (Knowledge or understanding test for schools)
- (v) To find out the interest and impressions of people (Interest Scale).
- (vi) To judge the amount and degree of skill or performance (Skill and Performance test).

11. The Fourth Evaluation Report on Working of Community Projects and N. E. S. Blocks, Vol. II, May, 1957, pp. i-ii.

12. *Ibid*, p. ii.

- (vii) To find out whether a certain recommended practice is followed or not. (Adoption Test)
- (viii) To study the problem of an individual family (Case History).

Most of the above methods are based on the personal judgements of the people and, as such, subject to differences in outlook, bias and error. Hence evaluation requires of a suitable combination of these methods for getting better and thorough results. Practical methods are surveys, interviews, questionnaires, case studies and success or failure stories.

But it is said that opinions or verbal behaviour are not reliable guides or tests of person's feelings and attitudes towards a project or programme. In this context Lundberg's words are relevant: "The fact that opinions or verbal behaviour are frequently very unreliable guides to what a person would do in a concrete situation, does not destroy the value of the verbal behaviour as an expression of attitude. It has been suggested that a person's actions are a safer indication of his attitude than what he says. But overt actions are frequently designed to distort or conceal private, covert attitudes quite as fully as public verbal behaviour sometimes conceals private attitude....." He further adds, "Hence, the only scientific approach to the study of attitudes is the selection of some or all of these responses—speech, bodily postures or others—and a description of them under given conditions."<sup>13</sup>

#### SOME OTHER CONSIDERATIONS

Sometimes the outcome attributed to one scheme, has been really speaking due to some exogenous factors. Hence, in order to guard the technique of evaluation from such weakness and make it foolproof, it should have a wide coverage embracing all projects and activities of the areas concerned and consider them *en bloc*.

In most cases financial outlay is not a proper index, because development commensurate to the outlay has not been visible. Hence, evaluation and especially post-evaluation should take a note of this.

A penetrating evaluation of the selection and training of development personnel is the need of the hour, and in the light of such evaluation it is essential to devise ways and means of ensuring the selection of only those who have the requisite personality traits and aptitudes desirable in these projects. Similarly current training programmes merit evaluation; the training centres should infuse not only idealism and spirit of social service in the trainees but also aim at turning out workers having adequate and sound training for their jobs.

The Programme Evaluation Organisation associated with, but independent of, the Planning Commission, has no doubt published "a series of objective, fearless and often highly critical annual evaluation reports" on the working of Community projects. But "its scope and area of operation, however, require expansion. The

13. Lundberg, G.A. : Social Research, Chapter VIII—"The Measurement of Attitudes and Opinions", Longmans Green & Co.

outlook and approach of this organisation so far have been oriented more towards the points of view of economics and published administration than of sociology, anthropology or social relations. The inclusion of the methodology and viewpoints of these disciplines in its approach to evaluation would undoubtedly enhance the utility of the work of this organisation."<sup>14</sup> Recently only a modest beginning has been made in this direction as is clear from the Fourth Evaluation Report.

Universities and independent research organisations can also lend their helping hands in the process of evaluation. "We commend this as a type of work which can be undertaken by our higher educational institution."<sup>15</sup>

It is also suggested that evaluation from time to time should be done by *ad hoc* bodies in addition to the Programme Evaluation Organisation. "We consider that another body should, from time to time, make a review of the progress made, and the problems encountered, devise solutions and make recommendations on future lines of action. Such a review by a Team, similar to ours, will be useful after every few years."<sup>16</sup>

To conclude, total dimensions of the technique of evaluation should have an integrated and objective approach comprehending economic growth indicators as well as people's attitude, response and participation in the programme. It is vital that a technique of evaluation should not merely measure the obvious but should also fathom beyond the obvious. Really speaking not one technique but many and diversified techniques are needed for evaluation. Hence, an apparatus of evaluation should be mounted with 'spectrum of techniques.'

---

## TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMME

A. P. KURIAN

*Research Scholar  
Department of Economics  
University College, Trivandrum*

Systematic and objective evaluation is an integral part of any kind of action programme. How new policies and programmes are received by the people and what effects do they produce on the economy and on the social set-up are questions which arise at every stage in the implementation of any development programme. "Evaluation is, therefore, an aid to policy. It may be considered to be a branch of research which is oriented primarily to the needs of an action programme."<sup>1</sup> In one sense some sort of evaluation is always made by administrators and others concerned with different programmes. General reports of progress or failure

---

14. Dube S. C.: India's Changing Villages, p. 152.

15. Balwantrai Mehta Committee Report on Community Projects and National Extension Service, Vol. I, p. 60.

16. *Ibid*, p. iii.

1. Report on the Second Five-Year Plan, Planning Commission (1956), p. 249.

are often available. But very often such reports appear to be fragmentary and subjective and it is doubtful whether they are informative and helpful in further planning. What is needed, therefore, is more acceptable evaluation based on scientific methods. The development of such an evaluation study, which should however be systematic, comprehensive and objective is relatively new in the field of social science. It is the purport of this paper to outline the features of an ideal evaluation study, specifying the steps involved in planning such a study and to analyse its applicability to the Rural Development Programme.

#### THE LOGIC OF EVALUATION

“Evaluation is an effort to learn what changes take place during and after an action programme and what part of these changes can be attributed to the programme.”<sup>2</sup> Such an effort to assess effects of programmes, whether rural development or anything else share a common logic in terms of which the features of an ideal evaluation study can be outlined. An understanding of the ideal is necessary to plan appropriately evaluation schemes in terms of programme needs, resources and technical facilities.

The purpose of evaluation studies, as mentioned, is to show to what extent is the programme accomplishing its aims and how far the activities have progressed. This demands primarily an understanding of the aims or objectives of the action programme. For “evaluation implies and indeed in practice consists largely of measuring performance against a predetermined goal.”<sup>3</sup> Determining programme objectives is thus the starting point of evaluation studies. The wide varieties of conceivable and actual objectives involved in programme should not only be defined as clearly as possible but also be translated in terms of observable results of specific accomplishments, or concrete behaviour. Most programmes will be found to have a multiplicity of explicit and implicit objectives, involving such complex features as changes in economic and social set-up as well as in individual beliefs and attitudes. The evaluator, therefore, should achieve consensus among those responsible for the programme as to the order of priority of these multiple objectives, and as a part of the same process the more general and far-reaching objectives should be analysed into steps or sub-goals. The more fully and concretely the objectives are specified the less ambiguous are the measurements of its accomplishments.

After determining precisely the objectives of the programme and describing the various practices operating under the programme it is necessary to evolve suitable criteria for the measurement of its accomplishments. Criteria are standards for determining whether a programme achieves what it purports to do. They should be relevant to the aims of the programme and adequate to cover all their aspects. For example, in evaluating the level of literacy, such criteria as proportion of population who can read and write mother-tongue, the proportion of population who can read and write national language or the proportion of persons, between a fixed age group, who can read and write seem to be appropriate standards for assessment.

2. M. Jahoda and E. Barnitz, “The Nature of Evaluation”, *International Social Science Bulletin*, Vol. VII, No. 3, 1955, p. 353.

3. Cora Du Bois, “Research in Cross Cultural Education”, *Institute of International Education News Bulletin*, June, 1953, No. 9, p. 5.



Adopting suitable methods of measuring the criteria, often denoted as technique of evaluation, is the next step. The problem of developing reliable and valid measuring devices is a technical one of applied social science. In evaluation, measurement of effects are primarily based on the objectives of the programme. If the objective is concrete and specific like growth of income of families or provision of credit through co-operatives, simple statistical methods would suffice. But social action programmes as mentioned earlier, have a multiplicity of objectives aiming at changes in opinions and attitudes. Experts have endeavoured to bring about appropriate measurement techniques.

For an assessment of progress in any line, some kind of base line or benchmark, needs to be established against which later changes can be measured. 'Before-and-after' measurements are the ideal way in which changes can be studied. The full elaboration of a completely satisfactory base line will involve a skilled study of all aspects of the problem to which action programme is directed. If such studies are not available it behoves the evaluator to conduct some simple preliminary survey in order to establish his own benchmark.

All the changes that take place during the period of a programme cannot be directly attributed to it. The change may be due to factors apart from the programme. Extraneous factors might have been influential in bringing the change. Hence, if we are to evaluate the programme adequately, the effects of the programme should be isolated from the influence of the extraneous factors. This is achieved in an ideal study by comparing the subjects of the programme, called the experimental group, with persons not exposed to the programme, called the control group. Both groups are measured in terms of the criteria before the programme and again afterwards. "However, practical difficulties of gaining access to genuinely comparable groups have made the use of this ideal design a rarity."<sup>4</sup>

To sum up, determining programme objectives, selecting the criteria by which accomplishments are judged, adopting suitable methods of measurements, establishing a base line and controlling extraneous factors, together form what is called the logic of evaluation. But in planning an ideal evaluation study, two administrative matters are also of importance ; the cost of evaluation and the machinery of evaluation.

Though evaluation is subsidiary to action, it is an important segment of programme planning and as such, adequate finance must be made available along with the budget of the programme. Efficiency and economy are as much important in evaluation as in the implementation of the programme.

The machinery of evaluation is organised in several ways. The Government of India with the assistance of the Ford Foundation has established a central evaluation unit to service its development projects. Technical assistance projects are evaluated by visiting expert mission. Whatever be the details of administrative system, the main question is the choice between specialists engaged to do evaluation, and the use of persons on the programme staff. Evaluation is a skilled

---

4. M. Brewster Smith, "Evaluation of Exchange of Persons", *International Social Science Bulletin*, Vol. VII, No. 3, 1955, p. 391.



and specialised process requiring trained personnel. At the same time it requires deep knowledge of the action programme. It is contended therefore that an outsider cannot easily acquire the knowledge of the programme necessary for evaluation. But to entrust this specialised task to the regular staff of the programme, would amount to making it a perfunctory work at the same time inhibiting the staff of their other duties. Experience has proved that it is preferable to entrust evaluation work to a person who has no other obligation towards the programme and that the entire machinery of evaluation must be organised as a separate unit.

#### RURAL COMMUNITY DEVELOPMENT PROGRAMME<sup>5</sup>

Evaluation being a scheme of means to assess the working of action programme, it is necessary that a discussion of the techniques of evaluation of rural development programme must consider the concept and objectives as well as the organisational and operational aspects of the programme.

The concept of Rural Community Development has been variously analysed. The term is a composite one, a four-fold concept. Rural pertains to a village. In under-developed countries community development is primarily associated with villages. "Ours is a world of village communities, of peasants and pastoralists who spend most of their lives within the small group of kith and kin and whose values have their roots there."<sup>6</sup> This is particularly true of India with about 82 per cent of her population living in the villages.

Cook defines a Community as "a population aggregate, inhabiting a contiguous territory, integrated through common experience, possessing a number of basic service institutions conscious of its local unity and able to act in a corporate capacity."<sup>7</sup> Rural Community is thus a locality group and a form of association between the people and their institutions in a village.<sup>8</sup> It signifies the integrated and corporate life of the people with their relationships confining not only to the economic and social spheres but extending to the realms of behaviouristic pattern and moral values.

The word 'development' is variously interpreted. By one meaning, it refers to increased production and income. By another, it refers to the development of the community itself as a social system. Generally, development "signifies change from something thought to be less desirable to something thought to be more desirable."<sup>9</sup> It postulates rational direction of human and material resources towards certain objectives. Development as associated with rural community is essentially a multi-purpose term. It takes into account the development of the individual as well as the community as both help and supplement each other's growth. It aims at developing the community in all its aspects, economic, social, cultural, educational and even psychological. For the various

5. For a fuller discussion of the term, Rural Community Development is used instead of Rural Development. Especially in India such programmes are operated through community development schemes.

6. Ruopp, Phillips: 'Approach to Community Development: A Symposium Introductory to Problems and Methods of Village Welfare in Underdeveloped Areas, 1953, p. 1.

7. Cook, Lloyed Allen: *Community Backgrounds of Education* 1938, p. 27.

8. See Sanderson, Dwight and Polson, Robert. A.: *Rural Community Organisation*, 1939, p. 50.

9. Ruopp, Phillips: *Ibid.*, p. 16.

facets of the life of the community are so interconnected that they cannot be developed in isolation and development of each as a part of a composite scheme contributes to the development of all its other aspects. It further endeavours to evolve a strengthening of the community ideal by instilling in the people with a common outlook and a spirit of co-operation. Finally development connected with rural community entails the participation of all sections of the community. It is largely organised on the basis of self-help principle.

'Programme' is a scheme of action aimed at certain objectives and operating through certain methods and media.

The above analysis of the concept of Rural Community Development helps us to pinpoint the objectives of the programme, many of which are inherent in the concept itself. The manifold objectives of the programme can be broadly classified into two categories—economic development of the area and moral advancement of the rural society. Economic development is necessarily the most immediate and fundamental objective, because without achieving a better standard of living for the rural population no other progress will be of much value. The besetting economic problem of rural areas is the enormous under-employment and unemployment,<sup>10</sup> accentuated by increase in the pressure of population on land. Economic development of rural areas primarily implies the improvement of agricultural production both in terms of yield per acre and output per man; and the development of occupations subsidiary to agriculture in order to raise the level of income of the agriculturists. Thus, more production and more employment are the immediate economic goals.

In an under-developed country like that of India, especially in the rural areas "there can be no substantial economic development without social change."<sup>11</sup> Problems of illiteracy, ill-health and insanitation have to be tackled in an effective manner to bring about a healthy social change. Rural development programmes, therefore, undertake not only activities that are conducive to improvement of the economic well-being like agricultural production, irrigation, communication, and supplementary employment, but also such activities as improvement of education, health, housing and social welfare.

It has often been emphasised that the Rural Development Programme in India seeks to bring about a change in the mentality of the sixty million families living in the countryside and to fire them with the ambition and the will to live a better life. "What it proposed was to transform the social and economic life and outlook of the rural people. . . ."<sup>12</sup> This is essentially a human and psychological problem. The objective is thus also one of moral advancement of rural society by the spread of progressive outlook and by the elimination of many social taboos that have been developed by the illiterate and superstitious rural masses.

Rural Development works have been organised and carried out in different parts of the country for some three decades, both under official and non-official

10. Due to seasonal conditions about four-fifths of the 60 million rural families in India find work in farming occupations for only 3 to 4 months and the rest for about 6 to 8 months in the year. Further, agricultural sector has remained stagnant without appreciable increase in the total yield of agricultural crops; and with practically no change in the occupational pattern of agriculture.

11. Report on the Second Five-Year Plan, p. 236.

12. New India, Planning Commission, 1958, p. 168.

auspices.<sup>13</sup> Though they had done yeoman service to the cause of rehabilitating the village life, they lacked co-ordinated approach and comprehensive planning. With the launching of the Community Development Project in 1952, rural development programme acquired a distinct organisational and operational pattern. Community Development Projects and National Extension Service Blocks are the organisations or the media through which Community Development is operated. These two organisations can be distinguished from each other in the words of Sri V.T. Krishnamachari. "The National Extension Service is a permanent organisation and will cover the whole country. It provides the basic organisation, official and non-official and minimum financial provision for development.... N.E.S. Blocks in which successful results have been achieved with the maximum popular co-operation are selected for intensive development for a period of three years. These are called "Community Projects."<sup>14</sup> A third pattern of organisation developed is the post-intensive phase.

In all the three patterns of organisation the unit of operation is the development block, "which represents an average hundred villages with population of 60,000 to 70,000 persons spread over an area of 150 to 170 sq. miles."<sup>15</sup> Villages are grouped in circles of five to ten each and served by *Gram Sevaks* one to each circle. The block with its ten circles has a staff over which the Block Development Officer presides. The Block staff includes specialised representatives of various departments, like Agriculture, Industry, etc., which carry out developmental tasks. The key functionary of the block is the village level worker or the *Gram Sevak*. He is the first-aid man in all fields of rural development work. Covering a population of 173 million and spread over more than 339 thousand villages, the 2,552 development blocks<sup>16</sup> have now become not only a permanent organisation for rural development work but slowly evolve as a social system permanently embedded in the net-work of the total society of India."<sup>17</sup>

In the operational methods of various activities undertaken by the programme the signal factor is the emphasis in people's participation. It is at once the aim and salutary method of rural development. In short the contents of community development programme in India can be illustrated in the following words. "The Community Project Programme in India is a complex of many efforts in agriculture, health, education, social services and other ways ; yet in a broad sense it is only the giving of opportunity in full confidence that India's rural citizens will take advantage of that opportunity."<sup>18</sup>

#### APPLICATION OF EVALUATION TECHNIQUES

The multiplicity of objectives and the magnitude of activities of rural development work necessitate the use of different techniques for evaluation. In the

13. Tagore in 1922 established an institute of rural reconstruction as part of Visva-Bharati; Gandhiji's village improvement work known as 'Constructive Programme'; Government pilot project in U.P. organised first in 1932; the Firka Development Scheme in Madras started in 1946-'47; and Sarvodaya Schemes initiated by Bombay Government in 1949; all these are instances of early efforts at Rural Development.

14. V. T. Krishnamachari: Community Development in India, Government of India, p. 10.

15. Report on the Second Five-Year Plan, p. 237.

16. Figures are as on 1 September, 1959.

17. See Howard W. Beers and Douglas Ensminger, "The Development Block as a Social System?" *Indian Journal of Public Administration*, Vol. V, No. 2, April-June, 1959, pp. 135-152.

18. Clifford H. Wilson, *vide Kurukshetra*, "A Symposium on Community Development in India," p. 17.

programme, the chief concern is with change by a process of self-help and co-operative effort and the active participation of local population is a substantial factor in the work. Hence, there is also the necessity of using simple and direct techniques of evaluation.

The general working of the programme and the progress of various activities are appraised by the preparation of weekly or monthly reports, which illustrate the use of simple data in evaluation of projects. For these reports the evaluator collects factual information from the project staff. A statement of the budget estimate and the expenditure incurred and a table showing the various activities, their targets and accomplishments would give a "current appraising of progress being made towards accomplishing programme objectives,"<sup>19</sup> which is one of the main tasks of evaluation.

What is of kinetic importance in the use of simple data is the method of collection and analysis adopted. Data relating to the activities in the block is primarily collected by a village level worker. It is, therefore, important from the very outset to recognise the fact that records kept by village level worker are of the utmost significance both in themselves and as the basis for other records. They supply the basic data from which analysis and interpretation follow. A recent enquiry<sup>20</sup> to find out the type of block records, reporting and checking practices shows that there are considerable variations in the records maintained by Gram Sevaks. In evolving a suitable system of recording and reporting by Gram Sevaks two considerations appear to be of importance. The registers and records must be few in number and brief in content and the importance of truthful reporting should be recognised. Effective checking and verification of data are functions performed by extension officers and the evaluation staff. But "checking on the spot is at present extremely inadequate and most checking is of the desk scrutiny type."<sup>21</sup>

The data collected are suitably analysed and main conclusions and points of significance are made available to the development authorities. This method of appraising programme through reports gives only an over-all survey of the activities. Many intricate socio-economic activities need to be evaluated in a more specific and scientific manner. Statistical method of sample survey provides essentially useful tool in conducting such particular studies, especially those related to quantitative changes and physical achievements. Studies on co-operative farming and benchmark survey are examples of such specific studies carried out by the Programme Evaluation Organisation.

It is with regard to the measurement of people's participation in development activities, acceptance of new practices, and change in outlook of the people that techniques of evaluation have to be modified and reorientated. The P.E.O. through a series of studies and enquiries—the Bench Mark Survey in 1954, and the Acceptance of Practice Enquiry in 1957—has endeavoured to assess these factors in terms of various criteria. Thus the extent of people's participation was measured in terms of their contribution both in kind and in cash to various

---

19. Evaluation Report on the First Year's Working of Community Projects, Programme Evaluation Organisation, 1954, p. 148.

20. Fifth Evaluation Report, P. E. O., 1958, pp. 139-148.

21. *Ibid.*, p. 148.

works like construction of roads, school buildings, drinking water wells, etc. Through suitable schedule data were collected from selected block area.

Acceptance of practice enquiry was one of the studies conducted by P.E.O. In fifteen blocks the organisation analysed this problem in relation to its three aspects: (i) adoption, reversion and non-adoption of agricultural practices, (ii) the people's participation in community work and (iii) membership of village institutions. Through suitable schedule, information was elicited and those relating to agricultural programme was analysed. The analysis brought out the role of factors which stood in the extension of items. Acceptance of practice is influenced by the direct advantage a particular change offers. Therefore, a study of acceptance must take into account what advantage induces the farmer to accept a practice. Further, physical, economic and social factors also influence the farmer's acceptance of improved practices. Studies have been conducted in United States in this line. For example, farmer's knowledge of soil conservation was evaluated on the basis of his understanding of the reasons behind the recommendation of the planner. Opinion and attitude survey is an important technique of evaluating the change in outlook of the people. In the measurement of achievement some attention must be paid to the degree of satisfaction felt and expressed by the local population. For the real hope for continuing developmental activities is founded on the basis of a conviction in the people that something has been achieved and that their own efforts have achieved it. An opinion study was conducted by the Evaluation Organisation which covered sixteen villages. It was designed to assess the reactions of the people towards community project. The survey has given a revealing insight into the working of the programme. The villages had shown a willingness and capacity to speak out and to indicate what they know or do not know about the project. These studies are generally being made by designing a series of questions which the evaluator thought fit to the problem. New approaches to opinion and attitude measurements have been developed by social scientists. Factual data on various activities of the programme, financial targets and their attainments are obtainable from the block records. But in the specialised studies fresh information is to be collected through interview, discussion and interrogation. Extreme care and resourcefulness are needed in designing, wording and more important in the filling up of questionnaires and schedules. As mentioned earlier, scientific evaluation is a complex process and a branch of research work. Only through experiments and systematic studies can the machinery of evaluation develop suitable techniques. Experience gathered by the Programme Evaluation Organisation on various aspects of Rural Development Programme would contribute substantially to the task of perfecting suitable evaluation techniques.

22. *Ibid.*, p. 62.  
23. See Julian Prudeciani and Paul J. Jwerman—vide *Journal of Farm Economics*, Vol. XL November, 1958, p. 903.

24. Community Project—First Reactions, P. E. O., 1954.  
25. See 'An Application of Scalogram Analysis in Agricultural Economic Research', by Arthur D. Jeffery, *Journal of Farm Economics*, Vol. XL, No. 4, November 1958, p. 479. The Author develops a new approach to the attitude measurement called 'The Ranking Approach'.



# TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMMES

G. C. MANDAL

*Agro-Economic Research Centre  
Visva-Bharati University  
Santiniketan*

Formulation of technique for evaluating development programmes involves the question of an investigation into their immediate physical targets and an ultimate overall objective. A development programme consists of an activity or a set of activities planned and directed towards achievement of a physical target or a set of physical targets. The targets will differ from one type of programme to another. It will be convenient to begin discussion of the problems which arise here with illustrations of some specific development programmes.

## PHYSICAL TARGETS OF SPECIFIC PROJECTS

Physical targets of an irrigation project will be acreage of land likely to be supplied with water, the amount of increase in the yield of old crops and yield of new crops likely to be achieved by the project. The project will have to be evaluated in terms of the new real income created in the process of its operation.

Evaluation will be completed when the rate of return from the project is estimated as ratio of net income created by the project to its capital cost. Evaluation of the net real income generated as ratio to capital investment in the project will be an integral part of evaluation of the programme. The larger the excess of the rate of net return from the project over the rate of interest which the capital invested might earn, the larger will be the measure of its success. The return from the specific project has, however, to be separated from contribution of other inputs like fertilizers, labour etc. by suitable experimentation. The experimentation might be of the nature of noting the difference to the net revenue caused by the introduction or absence of irrigation, other inputs remaining the same. The intake of fertilizers or inputs other than irrigation might, however, be enhanced as a result of irrigation. In that case the contribution of such additional inputs should not be separated from the total income-creating contribution of irrigation.

If the programme is one of road-construction, even then there will be more or less a similar impact on income though the process of the creation of additional income would be different.

Income would increase on account of the access of local products to new markets. Village-income might also decline for a decline in certain branches of activities in the face of competition with the outside world to which the rural economy may be subjected by better communications. The net increase in income would be the resultant of these two opposite tendencies. The difference in the process of change will consist of at least the following elements: (a) Development of transport both in volume and mode; (b) Changes in the agencies of marketing; (c) Mobility of income-creating resources. Additional income due to road-construction should then be ascertained together with its ratio to the total capital

investment for the purpose of evaluation of the programme. In addition to pure economic measurement evaluation should also be made in the present case in terms of social intercourse with the outside world exerting its influence on the standard of living and demand for goods.

Output-input ratios can be profitably utilized in evaluating a development programme in respect of its investment activities which are directly linked to production. A correct allocation of investment will be one which most closely approximates the pattern that secures equality of output-input ratios. This method may also be tried for testing the allocation of resources between different branches of developmental activities in a village. The larger is the extent of equality of income-capital ratios achieved in different activities the larger will be the extent of their overall success. This would, however, be a rough method of testing investment-allocation and must have to be qualified by a proper allowance for differences in productivities which arise from differences in technological conditions in different branches of activities.

There will, again, be difficulty in assuming a standard rate of interest with which net return from a project can be compared for its specific evaluation. If we take in view the long term rate of interest charged by a banker it would not conform to realities of the rural area. This is because the rate of interest obtaining in rural areas is extremely high. On the other hand if a high rate of interest as one prevailing in the rural areas is adopted as the measuring rod the picture of evaluation would be distorted by an undue allowance for the consumption-demand for loans; this is because the pressure of demand for loans evidenced in rural areas arises not so much for investment needs as from the consumption-motive mainly accounting for the high degree of uncertainty-element in rural loans. Attempts may be made to arrive at a mean between the rural and urban-rates of interest for a solution of the problem.

When a controlled economy is in operation the price-structure can be taken only as an imperfect index of valuation of output or services. In so far as this happens the ratio of the value of output to the value of input can be taken only as an imperfect guide in testing investment-pattern. A study of marginal propensities for consumption of various goods and services based on cross-sectional studies of various income-groups of households in the rural areas would be helpful in this connection by indicating an investment-pattern conforming more or less to the actual pattern of consumer-preferences. An investment-pattern, however, may not fully conform to the consumer-preferences because of the limitation of resources within which it has to take shape. An optimum allocation of investment would be one which would on the one hand minimize differences between output-input or income-capital ratios in different branches of activities and on the other hand minimize the difference of marginal-investment-pattern with the pattern of marginal propensities of consumption.

The production-function approach may also be profitably utilized to test the desirability of an input-pattern in a specific branch of activity. We may consider, for example, a loan programme for agricultural development under which a certain fund will be distributed as loans among farmers according to a definite pattern of allocation between uses of different factors, e.g., land-reclamation, fertilizers, livestock, irrigation-equipment, etc. Appropriate production

functions may be constructed for various ranges of holdings. Marginal productivities of different inputs derived from such production functions together with their marginal costs may serve as guide in evaluating the pattern of allocation of loans between different inputs.

#### OBJECTIVE OF RURAL DEVELOPMENT PROGRAMMES

Rural development programmes cannot obviously be exhausted by the materialization of some specific physical targets. They must have basis in a central theme—an overall objective. This is immediately perceptible in the case of a community development programme which is being pursued on a large scale in India.

A community development programme is not a single project. It is in fact a combination of several projects concentrated in small geographical areas. The usual combination is as follows: Improvement of agriculture through extension service, improvement of animal husbandry through veterinary and various other services, improvement of human resources through rural health service, education and social education, construction of roads, development of rural crafts and industries.<sup>1</sup> Underlying all such activities there is also an intensive administrative effort for social engineering towards development of co-operative action which constitutes the most vital part of a community development programme.

Growth of co-operative enterprise indicated by the total amount of resources pooled including human resources will be the best index for evaluating such a programme though, of course, the separate concrete achievements of all the specific targets comprising the programme as a whole must have to be taken as separate indices in its general evaluation. Separate indices are inadequate and can be observed only in relation to an overall index of evaluation of the programme in its entirety.

This is in general true for the rural development programmes viewed as a whole. Indices of evaluation can be divided into at least three categories:

First, there is the set of immediate indices showing progress of materialization of the physical targets fixed in the planning of the programmes.

Secondly, we have to observe indices of institutional changes and various attitudes or propensities of the people which contribute to the mobility of resources from lower to higher productive activity.

Ultimate index of success of a rural development programme is the creation of a minimum investible capital to sustain a process of continuous development and adaptation of social organisation to this great task.<sup>2</sup>

Considerable emphasis on capital-creation induced in the private sector can be laid as ultimate index which reflects all progressive changes in the economic,

1. The Sixth Evaluation Report on Working of the Community Development and N. E. S. Blocks, Programme Evaluation Organization, Planning Commission, New Delhi, 1959.

2. Reference may here be made to the idea of critical minimum effort expounded by Harvey Leibenstein in his book *Economic Backwardness and Economic Growth*, Chapter 8, New York, 1957.



social and cultural structure. Through income is the major determinant of capital formation, the importance of investment opportunities existing in the rural economy and the role of human expectations cannot be ignored. A well-devised development programme is expected to contribute substantially to the expansion of investment opportunities in the rural economy and dynamize expectations in favour of capital-creation on individual initiative.

Also, society elevated to the level from which the process of continuous improvement commences to work is necessarily one whose attitudes, outlook and expectations have been revolutionized enough to promise a number of adjustments which will all be leading towards wealth-creating capital-formation. Such adjustments will be in the nature of limitation of the family-size to a new and elevated conception of standard of living, curtailment of customary and ceremonious expenditures and a diminution in time-preference favouring future prosperity at the cost of present amenities. It is, therefore, a reasonable proposition to measure popular appreciation of a development programme in terms of favourable opinions, the programme has been able to arouse and progressive attitudes or outlook which it has been able to promote among the masses of people. Such a task is suggested in addition to the setting up of physical indices.

Assessment of opinions, attitudes and outlook is, however, full of difficulty. There is much possibility of bias being introduced into a straightforward survey of views. A greater reliance on behaviouristic responses will produce a better estimate. As such a capital-forming activity will be a very good objective test of all progressive changes in outlook of the society.

#### PHASES OF A DEVELOPMENT PROJECT

A development project can be conceived of having three distinct phases which should have bearing upon its evaluation. First is the formulation phase. Test of the plan in this stage will consist in the observation of the degree in which it is rooted in "felt needs" of the people. And a felt need underlying a plan might be ascertained by an investigation into the positive public actions giving expression to such a need. But the expression of feeling of needs may not always be correct or adequate or supported by the actual possibilities of their fulfilment. A theoretical evaluation of the plan might be tried on the basis of a survey of the actual physical resources which are expected to match the plan. Again an examination of the estimated return as a ratio to the estimated amount of capital investment or a comparison of the proposed investment-pattern with the pattern of marginal propensities for consumption of different goods or services will have to be undertaken as already suggested. The question here will be one of assessment of the extent to which the physical resources are actually available at the village-level for the materialization of the plan and the proposed allocation of investment actually conforms to the desires of the community. This implies that the plan may be tested in the light of a budgeting of physical inputs and outputs. It will be necessary to probe how far the budget conforms to reality. If the plan does not contain any physical budget, the material implications of the plan have to be worked out in terms of physical inputs and outputs with a view to testing their basis in actual availability of physical resources estimated on the

basis of a complete survey. An extension of this logic also implies that it will be necessary to measure the degree of complementarity between different activities under the plan, this is because the success potential of a plan depends upon the degree of its internal consistency, mutual helpfulness among its different constituents.

Secondly, there is the stage of execution. Technique of evaluation in this stage will be to survey the extent of participation of the people in the execution of the plan, their voluntary contribution in kind or cash and the rapidity of execution of the plan. Voluntary contributions of the people will be an objective index of their attitude to or appreciation of the plan. Objective indices for evaluation in this stage will be these:

(1) Administrative machinery for execution of the project—its components, quality and readiness to act ;

(2) the actual assembling of the physical resources to be transformed into various products or services

(3) popular organization to support or accelerate the execution of the project—its constituents, nature, quality and activities.

Next comes the post-execution phase when technique of evaluation will apply itself to the task of measuring changes in the social and economic structure and also in human expectations favouring mobility of resources.

In the final stage the task of evaluation will be to assess the level of new investment which alone will raise the efficiency-level of the rural economy progressively towards prosperity.

Development programmes in different villages might differ from each other in respect of content or emphasis. A scientific comparison of indices of change in different villages will be helpful in the evaluation of the efficacies of different programmes.

Technique of evaluation of development programmes should also concern itself with measurement of the extent to which benefits of the programmes are distributed among the masses of people. Cross-sectional studies specially designed for the purpose showing achievements of different groups of households will be fruitful in this aspect of evaluation. This is particularly true in respect of projects connected with the distribution of education or training facilities and credit facilities.

#### THE OPERATIONAL ASPECTS

The operational aspects of the foregoing discussions can now be formulated as follows:

(1) A complete survey of the selected villages will have to be conducted to give thorough estimates of their physical resources including human and animal resources. This will be necessary for testing the potentialities of a plan in the context of realities of the selected villages.

3. Continuous village survey conducted by the Visva-Bharati Agro-Economic Research Centre with a view to assessing impact of forces of change upon the rural economy may be referred to here.

- (2) A more frequent survey of the very same villages to provide basis for construction of the following indices :
- (a) materialization of the immediate physical targets aimed at by each developmental activity at the village level, *e.g.*, construction of irrigation canals, roads, tanks, public buildings.
  - (b) Improvement of human resources at the household level, *e.g.*, (i) rise in the level of education, (ii) eradication of some common diseases.
  - (c) Income from various economic activities at the household level.
  - (d) Level of efficiency manifest in output-input ratios.
  - (e) Consumption, expenditures and marginal propensities for consumption of different goods at the household level.
  - (f) Capital formation with sources of finance at the household level.

Evaluation of real income and real capital is, however, a difficult task. A difficulty in the measurement of real income particularly for estimating changes over time is likely to arise with gradual expansion of the monetized sector drawing into exchange many of the foods and services previously produced for consumption only. When the household goes on increasing production of goods and services more for the market than for home-consumption, estimate of its total income by taking into account new incomes from those items tends to register a rise more apparent than real. Hence, it is necessary to deflate income not only by cost of living index but also by an index of monetization showing proportion of goods and services sent to the market.

Evaluation of real capital involves the task of estimating prospective incomes which would be capitalized on the basis of suitable rates of interest. Alternatively capital-formation may be estimated on the basis of expenditures or activities which would be augmenting incomes later. For the purpose of aggregation such activities have to be converted into homogeneous magnitudes by reference to the periods of duration of their services. Duration of service which is likely to flow from a capital-forming activity cannot be correctly estimated for each of such items.

The problem of an underdeveloped economy is a little different from that of measuring capital in advanced economies. An under-developed economy is characterized by a high marginal propensity to consume or a high marginal time-preference and an almost absolute absence of any saving on the part of a household or a producing unit which will result in prosperity later. If this is the real situation then any activity on the part of a producing unit which is directed towards augmenting income in future may be taken as index of its saving or capital-forming enterprise. Here it can be assumed for all practical purposes that cost of capital is equal to its value. At least it would not matter if we ignore the differences between the two, particularly when we are interested in the study of changes in capital-stock over time. Moreover, it should be kept in mind that whatever capital-formation is there—a substantial part of it is not reflected in monetized transactions or in savings of the financial institutions. A physical-capital-forming activity, therefore, may also be a good index of saving which is most imperfectly shown in income-expenditure-accounts of the farms or may not have adequate monetary expressions in an underdeveloped economy a large part of which is non-monetized.

Land being the major resource with which a rural household is concerned, whatever capital-forming activity it is likely to perform will be mainly directed towards improvement of this resource and a rise in the level of some other inputs, *e.g.*, fertilizers. Hence, in the initial stage of development major capital-formation indices in a rural area will be these : (a) Reclamation of waste land ; (b) Excavation of tanks or the sinking of tube wells or the installation of other equipments for irrigation purposes ; (c) Construction of houses ; (d) Use of improved seeds ; (e) Use of improved method of production ; (f) Increase in the use of fertilizers and labour-input ; (g) Increase in the number of tools and implements ; (h) Installation of plants or machinery ; and (i) Introduction of new crops.

Additional expenditure of a producing unit or any or more of the above-noted items in cash or kind may be taken as index of capital-formation. Any such activity may not always be financed by own savings but by borrowing. Even then, it can be treated as an index of progressive enterprise.

It is possible that in the initial stage of development capital-forming activities will be undertaken only by a few progressive households and this will give impetus to similar activities on the part of others only in a subsequent period. Hence the evaluation of development programmes would be benefited by being based on cross-sectional studies of households.

Distribution of credit in the rural area through Government agencies constitutes an important part of rural development programmes. Physical capital-forming activities will be good index of utilisation of the loans. It is a common experience in rural areas that loans granted for investment purposes are often utilized for satisfying current consumption needs. A mere statement of the amount of loans distributed cannot be a true index for evaluation of this part of the programme unless it is supplemented by a study of how Government or co-operative credit is actually being utilized.

#### INSTITUTIONAL CHANGES

While some of the institutional changes are progressive and definitely accelerate development, others are only the result of development and are not, as a matter of course, conducive to further growth or by themselves index of progress. Elimination of village money-lenders or diminution of the importance of village money-lender caused by legislation and the spread of co-operative credit is certainly progressive. But it will be all the more progressive if such credit is production-oriented rather than swallowed up by consumption. Even here physical capital-forming activities are more important an index than co-operative credit as such. We may, again, consider mode of payment in rural transactions. There might have developed a cash-bias in transactions. But this may be the result of diversification of production in the rural economy. When production is diversified and enhanced widening the range of choice in consumption, people would prefer cash-payments to payments in kind. Diversification of output and consumption is therefore a more direct index of economic growth than mode of payments. Any deviations, however, from this process can be special objects of study.

Level of education, again, is an important question whose relation to rural development should be examined. A rise in the level of education is, of course, progressive but the influence of education as such over the economy is not substantial except in so far it modifies the consumption-pattern or induces family-planning by elevating the concept of standard of living. In a country like India men having higher education have been much more attracted to salaried service than to the field of business or productive enterprise. Its particular type of outlook promoted by some particular type of education or training such as business or technical training or a particular type of environment created by state-sponsored business activities that would encourage the growth of entrepreneurship in the field of productive enterprise which in its turn would further rural development by its own activities. Evaluation of rural development must therefore extend itself to the measurement of technical or business or activity-content in the educational facilities which are being provided in the rural area.

While many of the factors mentioned in the preceding discussions can be studied as indices of process of development, an ultimate appraisal of the development programmes must necessitate greatest emphasis on 'consumption' and 'capital-formation' (new investments) being carefully observed in a scheme of co-ordinated study of the two.

---

## TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMMES

J. K. PANDE

*Director of Economic Intelligence & Statistics  
Uttar Pradesh, Lucknow*

### *Introduction*

By far a major portion of governmental effort at rural development is at present concentrated in what are known as development blocks. Such blocks are to be found in all the States of India and, in many States, they already cover 50 per cent or more of the area or population of the State. Moreover, such blocks were expected to cover the entire area and population of the country by the end of the Second Five-Year Plan and, even according to the present programme, they are expected to have that coverage some time during the Third Plan period. The development effort in these block areas is also confined to the rural population. A development block is, therefore, not only a good type to represent an area of rural development programmes at present, but it would also be the only type for such area in the near future. For these reasons, this paper is confined to the technique of evaluation of rural development programmes in a development block area.

### *Technique of Development Effort*

The technique or the *modus operandi* of development effort in a development block consists of several parts or stages : (1) a certain sum of money is earmarked



for expenditure within a certain fixed period ; (2) consistent with the monetary provision, development plans are then drawn up for the area and population covered by a block; these take into account specially the local needs and resources ; (3) in order to execute such programmes successfully, certain targets in respect of important items of development work are fixed for the block. In many cases these targets are fixed for a period of five years, but even in such cases they have yearly breakdowns and there is provision, both in theory and in practice, for the revision of such annual targets before or at the time a new year commences, so that new developments or factors which may have cropped up in the meantime may be taken into account and realistic targets fixed ; (4) periodical reports containing details of actual achievement in various spheres are compiled by the field workers engaged in development effort.

#### *Utilisation of Information*

This paper seeks to examine how the information already available in the normal course can be best utilised for evaluation of rural development programmes, without encumbering the field workers with additional or special statistical proformas to fill in for the purpose and without conducting special *ad hoc* surveys.

#### *Evaluation Measure*

It may be made clear at the outset that if the problem were of evaluating rural development programme in a single development block or in a few blocks separately, clear and detailed evaluation could be done through separate *ad hoc* descriptive monographs on the work planned and done in each block. The problem which this paper has in view is, however, one of simultaneous evaluation, at periodical intervals, of rural development programme in each block separately as well as in a whole district comprising of several development blocks, a whole division comprising of several districts, a whole State having a number of divisions and, indeed, finally for the country as a whole consisting of so many separate States. In this background, not only is it necessary that the measuring rods for evaluation should be specific and unambiguous but that they should be available in such a form that while, on the one hand, they convey a fairly correct evaluation of the development work done in a particular area-unit, they also provide ready and valid comparison of the degree of success achieved in development effort from State to State, division to division, district to district, and block to block. It would, therefore, appear that the best way of securing such evaluation would be by means of an index number which would provide comparison not only between one area-unit and another, but also between one time-period and another as well as give a clear and specific measure of the progress made in rural development.

#### *Measurement of Progress*

For preparing a comparable and sufficiently expressive index number of progress, several problems arise immediately. The first amongst these is with regard to the standard by which progress should be measured : should it be actual achievement in absolute terms, or should it be achievement in terms of a norm, or should it be achievement in terms of the target fixed ? It is easy to see that progress measured by actual achievement in absolute terms would be misleading for pur-



poses of comparison between one area-unit and another, as clearly the needs of one area-unit differ from those of another and the significance of the same absolute achievement in a particular item of development work in one area-unit may be quite different from the significance of the same amount of absolute achievement in another area-unit. For instance, one thousand acres of area under green manures would obviously have one degree of significance in a block having ten thousand acres of sown area in all and quite another degree of significance in another block having only twelve hundred acres of total area sown. For the same reason, measuring progress in achievement in relation to a fixed norm, however carefully (or, for that matter, however arbitrarily) the norm may have been fixed, would be more or less equally misleading. The only way in which measurement of progress could be obtained in some relation to the local needs is to relate such measurement with a measurement of the local needs. The measurement of local needs is obviously given by the targets fixed, it being assumed, ex-hypothesis, that careful account of local needs has been taken in fixing the targets. It follows, therefore, that the standard of measuring periodical progress in rural development programmes should be actual achievement in absolute terms as a fraction or proportion of the corresponding target fixed.

#### *Progressive Achievement as a Percentage of Progressive Target: The Best Measure*

A subsidiary but connected question is the period for which achievement should be taken into account for preparing the periodical index numbers of progress. The period could either be the current unit of time, e.g., a month, a quarter, etc., or it could be a period commencing from the beginning of the year or the start of the block upto the end of the current period, i.e., month or quarter, etc. In deciding this period also, the question of the targets fixed has to be considered. If the targets have been fixed for the entire period beginning from the start of the block, naturally that sets the starting point. On the other hand, if targets are fixed annually and revised annually, so that they are available, at any given time, since the beginning of the current year, it would be more appropriate and useful to consider total or progressive achievement since the beginning of the current year upto the end of the month or quarter, etc., in relation to the target fixed for the corresponding period, as providing a suitable standard for measuring progress and preparing the progress index number. It may be added in this connection that in some States such as Uttar Pradesh, targets are fixed not only for each block and for each year, but there are also breakdowns for each month of the year so that it is easy to prepare a progress index number based on progressive achievement since the beginning of the year upto the end of the current month or quarter as a percentage of the corresponding target for the same period.

#### *Selection of Representative Items*

Another important question to decide in the preparation of index numbers would relate to the selection of items of development programme. Over the year the number of items which receive the attention of field workers in a development block is very large. For instance, the items enumerated in a printed form in which progress reports are asked for from field workers in development blocks in Uttar Pradesh run to nearly 700. It is well-known, however, that a large number of these items are seasonal in character and that, in any particular month, the number of items on which work has been done and progress has to be reported

is not more than about a quarter of the total in the list. But even amongst these, a number of items would be of a seasonal or unimportant character while some others, though not seasonal, would not be of much significance. As in the case of any other index number, a selection of the relatively important items has, therefore, to be made for the purpose of preparing a periodical progress index number. In making such selection, considerations of maximum coverage and representativeness have to be balanced with those of avoidance of too much of calculation work. Perhaps a list of 40 to 50 items could be so selected as to represent roughly an average of 80 to 90 per cent of total development effort in a block over the year.

It need hardly be emphasised that, apart from representativeness, another factor which will have to be kept in mind in selecting an item would be the feasibility of a periodic measurement in terms of figures. It is not unlikely that there may be some items, fairly important, which cannot be included in the list for the index number because progress in respect of those items cannot be periodically measured in concrete terms or figures. There is no way of including assessment in respect of such items in the periodic index number and the only way of evaluating such items is by means of special *ad hoc* surveys from time to time.

#### *Problem of Weights*

Having selected the items for the preparation of the progress index, the Statistician is immediately faced with the task of finding proper means of averaging the progress made in each of those items. It is not difficult to see that a simple average of the progress index for each individual item would be meaningless, as some items would have appreciably greater importance than others. The common method used to meet such a situation is the application of suitable weights or assigning of a certain figure to each item representing its relative importance *vis-a-vis* the other items in the list. But the basis on which such relative importance should be determined provides a practical difficulty in the sphere of rural development programmes. In preparing a wholesale price index or a consumer price index, there are bases available for assigning suitable weights, such as production or expenditure in a family budget. But how will the relative importance of particular item of rural development programme be determined in relation to other items within a development block? Should it be based on the amount of expenditure incurred? But there are items on which very little money need be spent and yet they are of outstanding importance in the development programme: for instance, inducing cultivators to adopt improved agricultural practices such as green manuring, line-sowing, etc., in order to maximise yield. Should the basis then be the amount of time or effort spent on an item? Here again, items can be found with importance having no direct relation with the time or effort spent on them. This, then, seems to be a case in which a term is impossible to define with precision but nevertheless easy enough and clear enough to understand. The Block Development Officer, who is in close touch with the conditions in the block, its needs and its resources, would doubtless be in a position to assign a certain relative weight to each of the selected items on the index list, even if he is provided with no rigid or mechanical formula for doing so. It may be stated that such an attempt has been made in some States and it has largely succeeded. Moreover, if it is remembered that small differences in weights are not significant, such discretion given to the Block Development Officer would appear

to be the best method for assigning relative weights to different items of development programme within a block.

### *Preparation of Progress Index*

With the items selected, figures of progressive targets and progressive achievement being available and relative weights for each item having been fixed, the preparation of a progress index for a block remains a matter of arithmetical calculations. Such an index can be prepared not only for the entire development activity in the whole block, but for each group of activities, such as agriculture, animal husbandry, co-operation, education, etc., and also, if need be, for smaller area-units within a block, such as a village-level worker's circle if it be intended to evaluate and compare rural development in such sub-units within a block.

On the other side, the problem is of combining such progress index numbers for individual blocks into a corresponding single progress index for a district comprising of several development blocks. As far as the question of selection of items is concerned or of targets or of actual achievement, there is no difficulty. But the problem arises with regard to evolving suitable weights at the district level from the series of weights available for each block within the district. There are several possible ways of combining them, but the best method appears to be to fix the district weight for a development item by obtaining a weighted average of corresponding weights in different blocks, the weight being provided by the annual target for the item in each block. It need hardly be added that, by the same process, progress indices could be prepared for a division consisting of several districts and, finally, for the State as a whole and subsequently for the country as a whole.

### *Need and Utility of Progress Indices*

It would not be out of place to emphasise one aspect of the practical utility of such index numbers in day-to-day administration. The number of development blocks is very large in many States, having exceeded the figure of 400 in some of them. Ultimately, some of the States are going to have over 850 development blocks. The problem in such a case is, therefore, for the administrator at the top or even at intermediate stages to keep a track of the work being done or not being done, to keep a continual feel of the pulse, as it were. Without this, development effort would seem to proceed in dark and advantage could not be taken of mistakes or neglect before it is too late. It is, therefore, important for such persons to have before them, periodically, a statement or a table which would enable them to see at a glance, where progress is lagging behind or very much behind the expected measure and which would thereby provide material to them to locate the weak spots and probe into them in greater detail. This is exactly the service which such progress index numbers can render. By providing such material and thereby opportunities for appropriate follow-up action being taken in time, they can be the means of prevention of considerable waste of development effort.

### *Importance of Primary Data*

It is evident that the progress index numbers, as envisaged above, would be based on reports of development work done from time to time by field workers.

The utility of such index numbers would, therefore, depend completely on how far such reports are reliable and accurate. A system of safeguarding and ensuring the reliability and accuracy of reports received from field workers is, therefore, a vital part of the technique of evaluating rural development programmes through such index numbers.

*Need for Periodic Ad Hoc Surveys*

Before concluding this paper, it may be added that the evaluation given by such progress index numbers would necessarily be confined to the items on which development effort is being spent within a development block. It would be like having an idea of a wood by counting the trees. It may be that in some cases or at least once in a while, an overall idea of the wood itself would be necessary and useful. In other words, an overall assessment or evaluation of the change brought about by the various development efforts being made may be useful. Such evaluation can be made, periodically, by *ad hoc* surveys specially designed for the purpose.

---

## TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMMES

C. P. SHASTRI

*Agricultural Economist  
Patna, Bihar*

Since the inauguration of First Five-Year Plan in India a very large number of Rural Development Programmes have been launched to improve socio-economic status of rural population. Therefore, the evaluation of Rural Development Programmes is an immediate and vital need of to-day, for all future schemes of rural development and all plans for rural reconstruction will have an important bearing on the basic data furnished by evaluation survey of the existing rural development programmes. If mistaken objects and faulty methods are allowed to vitiate data, furnished by our investigations of rural development programmes, the results of our planning cannot but be disastrous.

A rural survey is a scientific collection and compilation of facts relating to the social and economic life of people living in rural areas. It is a socio-economic study of the rural life of a particular region or locality from all aspects. The rural survey in its simplest form means the survey of rural area, to be more precise it means the enquiry or inspection of conditions of rural life both social and economical in a particular area, region or country. Therefore the technique refers to an examination of different objectives for undertaking the various investigations and the methods employed with diversification in their approach.

### OBJECTIVES OF SOCIO-ECONOMIC SURVEYS

The objectives of rural surveys are different according to the particular need of the authorities sponsoring the investigations. Thus different objectives are

chosen for different rural surveys to suit their special needs and conditions. However, all rural and economic surveys must aim at presenting a situation or problem with the greatest possible accuracy after an extensive or intensive enquiry for collecting data and statistical details. It must give a general picture of the economic conditions in the region. Emphasis should be made that our rural surveys in India, must, in their objects be constructive. It is not enough to seek to find out how life lay in the villages. An explanatory and diagnostic survey is needed to explain why they are as they are, and how they could be reshaped and reconstructed.

Their chief purpose is to furnish to the administrator, the economist, the social reformer and the policy-maker solid foundation of carefully ascertained facts to serve as a basis for analysis, decision or action. They also must serve the valuable purpose of bringing to light insufficiently known facts and thus preventing ill-informed or incorrect decisions being taken. They must provide the needed material to assist in building up a methodology and technique of economic enquiries which can be applied promptly and effectively in all economic investigations. Thus they are an essential preliminary to the formulation and execution of plans of development hardly needs any emphasis. Rural survey is neither an end in itself nor is it itself the object or objective but the ultimate aim is the evaluation of a rural plan. Thus the underlying objective of a rural survey is the formulation of a right plan with a view to reconstruct and revitalise the rural area.

#### METHODS

The different methods of survey for evaluating rural development programmes are followed according to special need, conditions and objects of investigations to be conducted. However, the following common procedure may be followed in all methods which are in use.

##### *Selection of Area*

The particular purpose of the survey determines the selection of locality of area for investigation. The expected possible co-operation from the villagers is also another important factor in the final selection of region for enquiry. The selected area should be a fairly representative of the region for which a particular survey is conducted. For this it is essential to ascertain that the agricultural characteristics of the area selected for investigation are identical to a considerable extent with the region to which the selected area represents. This may be ascertained by a comparative statement relating to the following items :

- (1) Man/Land ratio : It includes rural population per acre, agricultural population per acre and agricultural population per acre of cultivated area.
- (2) Pattern of land use—which means ratio of area under different uses, *i.e.*, cultivated area, cultivable waste, land put to non-agricultural use, barren lands, forests, etc., to total geographical area.
- (3) Irrigation and their sources—which indicates (i) the ratio of irrigated area to total cultivated area, as well as to total cropped area, (ii) proportion of area irrigated by different sources, *i.e.*, canals, tube-wells, masonry wells and others.

(4) Intensity of cultivation in relation to cultivated area as well as cropped area in case of *Kharif*, *Rabi* and *zaid* seasons and

(5) Crop pattern—which means percentage of area under different crops to total cultivated area as well as cropped area.

In case the object of the investigation is to determine the relative profitability between bullock operated and mechanised (tractor cultivated) farming or say between irrigated and non-irrigated farming or between canal irrigated and well irrigated farming, it will be desirable to select area where both the types of farming as mentioned in each are practised side by side on similar type of land. Again if it is intended to study the advantages of improved methods of cultivation over the traditional one, he has to select an area where both the types of farming are followed. But, if the general condition of region is to be studied the co-operation of villagers is the foremost consideration in the selection of area.

#### *Size of Sample*

An attempt should be made not to select a very large sample which may involve heavy cost much beyond the limit of available resources. But at the same time it should be borne in mind that a sample of any size will not give exactly the same result as a study of the whole group would. As a matter of fact the size of sample will depend upon the staff and money available and the proposed groups and sub-groups required in the final analysis. Much, of course, would depend upon the objectives of the surveys, but all the same it seems essential that the sample studied must be large so as to give proper chance of inclusion of all conditions existing in an area. Moreover, according to the so-called law of averages, the larger the number, the more reliable the average. The reason for this is that with a larger number of observations, there is a better chance for any error to be cancelled by a similar error in the opposite direction. However, within these two completely opposite sets of conditions the size of sample has to be judiciously determined.

#### *Duration of Survey*

Rural life and habits of living in India are not rigid, they are in fact very flexible. The technique of our rural surveys has been influenced considerably by this basic fact of our rural life. Surveys conducted for a period less than one year would not ordinarily provide solid facts required as a base for planning. Experiences show that even a one-year survey some time does not give a completely typical picture of rural life and conditions sought to be investigated. The conclusion, therefore, emerges that while a round of one full year should, in general, be the minimum for recording data pertaining to rural life, an attempt should be made, as far as practicable, to extend the period to more than one year in order to obtain a correct reflection of different phases of rural life, corresponding to changing conditions.

In case of intensive agro-economic surveys and farm management studies, the question of extending the period of investigations more than one year is much more important and enhances the reliability of data so obtained specially in case of programmes for the economic evaluation and demonstration of the overall



benefits of improved technical and technological practices on cultivators' holdings. In such cases, the period of investigations must be of at least three years duration. For it is a well-known fact that even when all the conditions are identical, the yield and financial results on holdings can differ substantially due to difference in the management ability of the persons managing the holdings. Moreover, the various practices of agricultural improvements cannot be viewed as static, with the progress of research, new varieties and new practices will be evolved and their benefits will have to be appraised. Besides, the relationship between the prices of both agricultural requisites and agricultural products is even changing and such changes also materially affect the value of various technical and technological improvements. Therefore, study in such cases must be on a long term basis to find out the economics of complete rotations and the overall effects of improved practices on the trend of crop yields and level of soil fertility.

#### METHODS IN COLLECTION OF DATA

So far as the collection of data is concerned there are two main methods in use: (i) the census method and (ii) the sample method.

(i) The Census Method of Survey :— The census method of survey consists in surveying all the units in the area. It is followed in the collection of our population statistics every ten years and is also adopted in the collection of our cattle or livestock statistics every five years. It is exhaustive in regard to its universe of reference and covers every existing unit and involves complete enumeration which is bound to be very costly. In spite of the large cost involved in view of the tremendous value and imperative need of data required as a basis for the formulation of Rural Plans, the use of method of collection of data by complete enumeration may be recommended in specific cases. The basic material, it is realised, must be collected by census method of survey, as the importance and accuracy, the great value of the material collected and the varied use to which it will be put, will more than repay the heavy cost in money, time and labour involved and would facilitate the vital decisions of enormous importance and significance.

(ii) Sample Method of Survey :—The sample method of survey consists in surveying only some of the units in the area. Now-a-days the sample method of survey has come to great prominence due to its soundness of the mathematical arguments and the success of the experiments carried out by this method. As far as the sample method of survey is concerned, there are two basic forms of selecting the sample, (a) the random sampling and (b) the purposive selection method. In the random sampling method all the units of the population are enumerated and a proportion of them is selected by some random methods giving equal chance to each unit to come into the sample. The method of random sampling is only applicable where the circumstances make it possible to give every single unit an equal chance of inclusion in the sample. Its particular advantage lies in that one can always be sure of the degree of accuracy with which one is working as any precision required can be obtained by including a suitable number of units in the sample. Its weakness on the other hand lies in the difficulties of carrying out in practice the strict rules which are demanded by the application of the law of large number.

(b) **Purposive Method** :—It is also called as Representative or Deliberate sampling. In this method the particular units are purposively selected out of the huge mass on the basis that they will be typical or representative of the whole. Here there is a great chance for personal element to enter in the selection and thus to vitiate the entire enquiry. If selection is unbiased, the results obtained from the analysis of deliberately selected sample may be tolerably reliable, provided the basis of selection is unquestionable from either points of view. Its main advantage is that it is capable of being applied to practically every field of research even where the conditions of selection at the random are lacking.

Further, on the basis of the successive stages of selection these two broad types under the sample method of survey can again be divided. In cases where the population is not composed of homogeneous units, as is often the case, the population is divided into homogeneous groups of strata and then the selection of units is made. This method can be used for both the random and purposive type of sampling.

It is rather not possible to say dogmatically which one of these methods is better than the other because of the fact that much depends upon the object and nature of the study, and the characteristics of the universe to be studied. As a method of selection of the sample, while the advantage of random sampling should be recognised from the theoretical point of view in the investigations in which farm accountancy data constitute material for the sample, the method of purposive selection should be preferred. It would appear therefore that the best results can be achieved by straightforward purposive selection on condition that it is checked by suitable controls and based on a good acquaintance on the part of the investigator with the general structure of the agricultural industry in the country or region concerned.

For some length of time, until the farmers have been educated and have been entrusted in the art of managing farms on a scientific basis applying commercial principles, rendering the maintenance of farm accounts and records possible the work of actual analysis and compilation of farm cost data and statistics should naturally devolve upon specialised institutions or persons that may have to be specifically appointed for the purpose. On this assumption, the obvious advantage lies in choosing the purposive selection method for the purpose of gathering cost data in India. When the country is sufficiently advanced in the field of agricultural development and when there has been a reorganization of the structural basis of the agricultural industry on economic criteria with economic holdings which would yield comparable units for purposes of calculating the cost of cultivation, the random sample method will serve the purpose.

#### METHOD OF ENQUIRY

There are various types of method of enquiry, one of which is to be selected according to the object and nature of the particular study. The following are the common methods in use in our country.

##### *Mailed Enquiry*

In this method printed schedules are sent round to a particular predetermined list of persons, at least a good part of whom are expected to reply. This method

is easy to administer and no field force of enumerators is required. If there is good co-operation a large number of returns can be obtained at a relatively low cost. But it has got certain serious limitations. (1) Normally, individuals or institutions which have well equipped staff and feel civic responsibility only will care to reply. Hence the method is susceptible to serious bias ; the different groups of units of the population are not likely to be properly represented in the sample. (2) Further, in this form of enquiry only short question can be introduced and the opportunities for obtaining informations by indirect questions and also helping the respondents in understanding technical questions will be lost. Our villagers are illiterate, the method of issuing questionnaires to them and get their replies is, therefore, out of the question.

### *Survey Method*

The survey method which is also known as the *extensive* method depends upon a large number of estimates collected from selected farmers without keeping account through *ad hoc* survey, by means of interrogation and filling up of questionnaire. Here the investigator visits each farmer twice or thrice or four times a year and collects data relating to the preceding six or four or three months as the case may be. The survey method provides a quick and cheap means of obtaining the information under Indian conditions although it may have some drawbacks as compared to the cost accounting method, with regard to the reliability of the information collected specially from randomly selected farmers, a majority of whom may be illiterate and may not be in a position to furnish replies to the questions put to them by the investigators. This method is very suitable for general socio-economic surveys and extensive agro-economic surveys.

### *Cost Accounting Method*

This method is also known as the *intensive* method and depends upon the record with costs of all farm operations and business transactions and is survey through time. In this method the investigator visits the selected farmers once a day and notes down details of each operation, transaction and activity engaged in by the farmer during the day. No doubt this method is suitable for intensive studies and results are more reliable than that of the survey method, but it involves an elaborate field survey, considerable time and large expenditure. This method is very much suitable for intensive agro-economic surveys and farm management studies.

There is wide divergence of opinion among economists, statisticians and field investigators in India regarding the advantages and suitability of the methods as applicable to conditions here. The present magnitude of illiteracy among the peasants, the prevailing habit of not keeping any accounts and the conservative attitude of the peasant in disclosing facts compel one economist or investigator to advocate and choose the cost accounting method, as the only one suitable and another to choose the survey method. The investigations so far carried out in this country have been based either mostly on survey method or some form of accounting method. Ultimately, it is the method that is chosen that would reflect the accuracy of the data and analysis of results.

The virtual absence of recorded data in the form of notes and memoranda and the complete reliance on the memory of the farmer for his past operations may not present a serious handicap if the investigator has prepared a scientific schedule of questions that would cover all the items to be included in the cost of production. The farmer usually remembers individual items and can enumerate them precisely if questioned one by one. He gets confused only when he is questioned about a number of separate items in one calculation as about the total costs. Under the present conditions, apparently the survey method which has been actually followed in the studies of Indian Agricultural Economics, has no doubt certain advantages of comprehensiveness, cheapness, and expeditiousness. In other countries the investigators visit farms and get the entire schedule filled usually in one visit. Experience in India has shown that the work cannot be satisfactorily carried out equally quickly. In the absence of recorded data it is necessary to adopt many devices to ensure accuracy by means of personal questions and cross questions during the periodical visits.

Keeping all these circumstances into consideration in case of "Studies in the Economics of Farm Management" started at different six centres in India during 1954 it was decided to try both the methods with a view to comparing the results and lay down the pattern for similar surveys in future. Some tangible results regarding the superiority of one method over the other would be available when the results of three years investigations are finalised.

#### *Preparation of Schedules*

After making a decision of size of sample and procedure of sampling, the next step in conducting a survey is to prepare a schedule of information required. For this purpose it is essential to have a definite object in view and to decide upon absolutely essential facts that are to be desired to be studied. Both for the sake of the investigator and the farmers the number of questions should be kept as small as possible. Another important consideration is the arrangement of questions. Their sequence should be in a logical order, *i.e.*, in an order in which each question follows more or less naturally from the answers of previous questions. It is best to put those questions first which are simple, general and of less personal character or those which stimulate interest. Questions dealing with money or those which are likely to be resented by the farmer should come last. It also has been experienced that if a farmer is asked the questions dealing either money matters or personal character in the presence of others, his replies suiting to his personal whim are either underestimates or overestimates.

An excellent plan is to prepare a provisional questionnaire and to give it a short trial before the actual enquiry is taken in hand. Such a test would reveal weaknesses, if any. After this trial, the questionnaire may be sent to the persons selected for conducting enquiry.

Before starting the work, it is desirable that the farmers or villagers selected may be approached with a view to explaining them the purpose of work and the information sought, and obtaining their co-operation. In any case in this work the personality of the surveyor and his acquaintance with the local practices and customs is very important.

*Supervision*

The successful conduct of a survey will, of course, depend in a large measure on continuous and competent supervision. The accuracy of information secured depends to a great extent upon the time of conducting the survey, the method of questioning, tactfulness and intelligence of the investigator. All these things are considerably influenced by timely competent supervision.

---

## TECHNIQUE OF EVALUATING RURAL DEVELOPMENT PROGRAMMES

H. S. SINGH

*Agricultural Economist*  
*National Council of Applied Economic Research*  
*New Delhi*

The technique suggested here can be used to evaluate only the *economic* content of development programmes. The evaluation of other aspects—sociological, cultural, etc.—is not covered by this technique ; it merely attempts at presenting the minimum elements involved in finding out the profitability of the programme in economic terms. The technique is ideal for evaluating development programmes which have large amounts of capital invested in them, and where the measurement of benefits and costs in economic terms is of relatively great importance. A large number of rural development programmes, most likely, would not answer this description.

In leaving out non-economic factors, the author is not oblivious of the fact that non-economic factors significantly affect the selection and carrying out of the development programmes in general, and of rural development programmes in particular. It is quite possible that justification for a great majority of the rural development programmes will come mainly, or, in some cases, even entirely, from the non-economic benefits and not from a high benefit-cost ratio. Nonetheless, in view of the scarce economic resources, it is important that economic analysis is attempted to provide a part of the information needed for total evaluation. The procedure given here is developed with this end in view.

### STEPS IN PROGRAMME EVALUATION

Some important steps in programme evaluation consist of providing an answer to the questions raised below. Evaluation usually aims at determining quantitatively and qualitatively the extent to which objectives of the programme are being attained. It essentially answers the question : Did the programme result in changes it was designed to bring about ? Evaluation may, further, include an attempt to identify strengths and weaknesses of the various kinds of approaches to the problems under attack ; that is, not only the *content* of the programme but also the *means* or *methods* of achieving the objectives are under

evaluation. The evaluator may, in certain cases, be asked to take an unorthodox approach and question the very objectives underlying the programme. How much is to be included into the vortex of evaluation will be decided by the terms of reference. The following questions are designed to enable a bold approach to be taken, and probe the objectives, alternative methods and programmes, and the like.

- (1) Does a need or demand, present or potential, for products or services provided by the programme exist?<sup>1</sup> Is it considered necessary or desirable to induce such a demand if the need does not actually exist?

Promotion of interest in a product or service on the part of consumers should follow a study as to whether the item to be introduced fits into the present and expected pattern of consumption.

Want-creation is really important in times of rapidly rising incomes. The experience of the United Fruit Company's Headquarters at Tiquisate, near the West Coast of Guatemala, was very unhappy in this connection. Because the need and complexity of the want-creating process were not adequately appreciated and understood, social unrest and inter-group tensions resulted. In times of rapidly rising incomes (absolute or relative) consumption gets too far ahead of standards of living, and unpredictable haphazard, and disorganized spending results, confusing the producers in regard to consumer-expectations, and also leading to undesirable sociological consequences.<sup>2</sup> This point merits consideration as intensive rural development efforts in a region may, very likely, lead to similar situations in India. In most cases, however, it can be expected that demand will run ahead of the ability of consumers to buy, and of the availability of the product, or service under consideration.

- (2) What are the estimates in respect of benefits and costs over the life of the programme?<sup>3</sup> These would indicate the degree of the effectiveness of resource utilization and involve measurement of certain physical and economic factors.<sup>4</sup> Does each separate segment, or purpose provide benefits at least equal to its cost?<sup>5</sup>

Economic benefits and costs can be put into two classes : tangible and intangible. The former can be measured in money terms, while no monetary value can be assigned to the latter. But intangible costs and benefits are of great importance, all the same. The importance of intangible benefits is particularly highlighted in cases where the removal, or improvement of certain undesirable features, *e.g.*, those pertaining to economic institutions, is a pre-requisite of economic progress.

---

1. The evaluator may also attempt at determining what needs are not being met by the programme.

2. Hoyt, Elizabeth E, "Want Development in Underdeveloped Areas", *The Journal of Political Economy*, Vol. LIX, June, 1951, pp. 194-202.

3. Problems in the measurement of benefits and costs are nicely dealt with in a United Nations' Publication: "Formulation and Economic Appraisal of Development Projects", Book I, 1951. One of the latest, and another good presentation is Eckstein, Otto: *Water Resource Development: The Economics of Project Evaluation*, Harvard University Press, Cambridge, 1958.

4. For purposes of evaluation, benefits and costs should be measured from the same viewpoint, to a comparable degree, and on a comparable basis for time of occurrence and other factors.

5. For some segments the cost may exceed benefits, *e.g.*, costs borne by Central Government may exceed the accruing benefits; the participation of the Central Government in such a case may be justified for reasons of national policy, defence, etc., *i.e.*, on *non-economic* grounds.



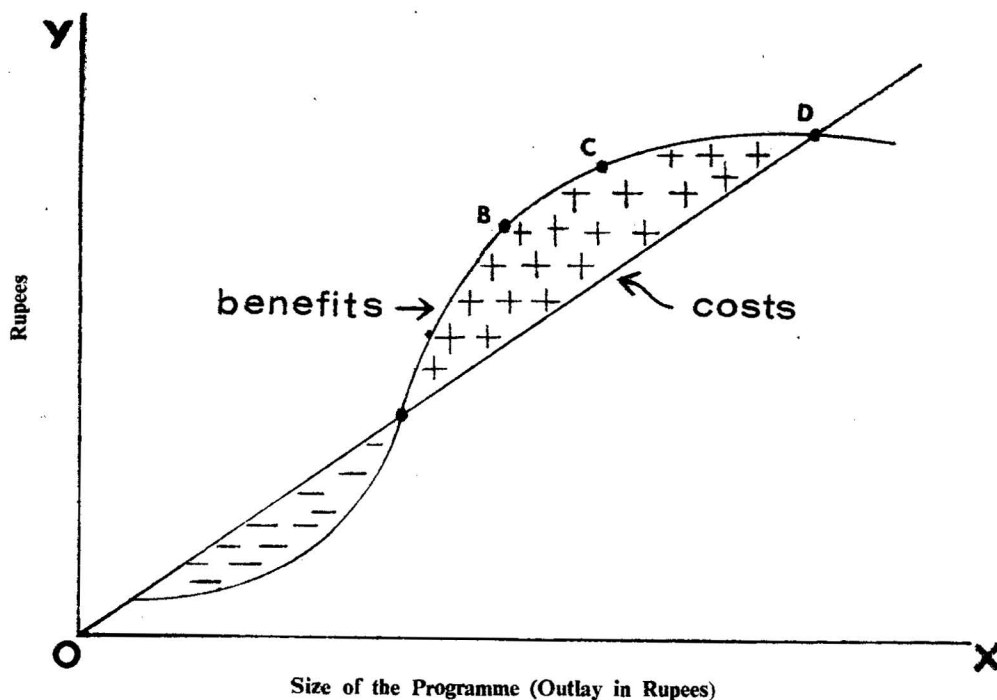
In cost-benefit appraisal, all expected benefits and costs—primary and secondary, tangible and intangible—should be properly determined. However, only the values put on primary and tangible benefits and costs can be calculated with a reasonable degree of accuracy. No money values can be assigned to intangibles, and the determination of the value of secondary benefits and costs is susceptible to a wide degree of errors and inaccuracies. The intangible and some of the secondary effects will have to be assessed in qualitative or imaginative terms because of the rather unsurmountable difficulties involved even in their rough measurement.

- (3) Is the programme working at an optimum level? The additional question to be considered is: Could the same resources be utilised elsewhere with greater efficiency?

The costs of a programme are sacrificed benefits from another programme which one does not undertake because one has undertaken the former. This idea of "opportunity costs" is very important for evaluation purposes. By confining one's self to the individual programme under evaluation one is doing no service to the cause of proper allocation of scarce economic resources.

The principle of "opportunity costs" also gives us a clue to the solution of the problem raised above—the problem of the optimum size or scale of the programme.

The following graph will help to illustrate this point.



Most programmes would be uneconomical if undertaken on a very small scale. Point A in the Graph is the "break-even point" and here the total benefit-cost ratio rises from below one to one. The maximum benefit-cost ratio is attained at point B ; but the maximum total net benefits (excess of benefits over cost) are realized at point C. Beyond point C total net benefits start declining. Point D shows another "break-even point" where the total benefit-cost ratio has reverted to one.

Economic analysis thus indicates that the scale of programme must be between points A and D, and that point B indicates the minimum size of the programme as the benefit-cost ratio here is at a maximum. It would appear further that every programme should be extended to the scale shown by point C, as the objective should be the maximisation of total net benefits. But this is a wrong view. In going from point B to C, even though the benefit-cost ratio is greater than one, we are actually losers because the benefit-cost ratio obtainable by spending the money on some entirely different programme may well be higher than the ratio we get after having moved from point B, and in reaching upto point C. In this case, the programme should be extended up to point C only if we cannot get anywhere in the economy a programme giving a benefit-cost ratio of higher than one; such a situation will rarely exist. So the programme should be extended to some point between B and C, but the exact point cannot be located unless we have benefit-cost ratios from different scales of programmes in respect of programmes other than the one under consideration.<sup>6</sup>

- (4) Would it be possible to achieve better results by :
  - (1) Varying the scope of a single programme?
  - (2) Including, or dropping a specific purpose from a programme?
- (5) Can alternative methods of pursuing the same objectives be more efficient? In other words, is the approach being followed the best in the circumstances? Do other means exist, public or private, which can accomplish the purpose of the programme, or any of its various segments, in a more economical manner?
- (6) Does the programme have proper relationship to the overall national economy, and is it consistent with the national development plans? How is it assisting or stimulating other programmes?
- (7) How is the programme affecting the country's balance of international payments?

The effects may be import-increasing (import of capital goods, etc., or increased incomes leading to increased demand for imported goods), or import-reducing (producing things imported before); exports may go up as larger production may result from the programme. These latter effects may be of great importance in the light of recurring foreign exchange shortages.

- (8) Is the future financing policy of the programme sound (including a consideration of foreign exchange aspects)? Are the financial arrangements

6. This analysis enables a comparison of resource-use efficiency *between* programmes (the usual evaluation procedures are a *within* affair—comparison of achievements against objectives), and would yield information for planning the most efficient use of resources through application of the principle of equi-marginal returns from various programmes.

between various co-operating units, which are carrying out the programme, fair ?

It is possible that some commitments may, on study, prove unreasonable for a certain participating agency, and may, thus, jeopardise the future of the programme.

- (9) Is the programme helping to bring about changes in keeping with the economic welfare criteria as laid down by the policy-makers ?

It is possible that a certain programme is benefiting more than those who were already better off than those who were not;<sup>7</sup> it may be quite contrary to the objectives of the programme. The Fourth Evaluation Report of the Programme Evaluation Organization referred to wide disparities in the distribution of the achievement and, therefore, of the benefits of community project programmes.<sup>8</sup> In certain cases, a programme may have great emphasis on the achievement of greater production, (with no heed given to income distribution aspects) whereas, in other cases, reduction in income disparities might be the main plank of the programme. The achievements should be judged in the light of objectives laid down.

Answers to above questions will provide a basis for overall evaluation. The importance of the above points, and the weights to be attached to an individual point would depend upon situational requirements.<sup>9</sup>

#### LIMITATIONS OF THE PROCEDURE

Some difficulties in the way, and limitations, of economic analysis for purposes of evaluation are pointed out here.

The economic effects of a programme cover a wide range. The programme sets off a chain of events, or secondary rounds of activities, and the evaluator has to determine which effects are attributable, partly, or wholly, to this 'chain-reaction.' There might be some effects that are due mainly to the carrying out of certain other programme, but which can easily be confused with the effects of the programme under evaluation, especially in cases where the latter happens to be all-embracing like the community development programme. Marked increase in the volume of agricultural production in a particular N.E.S. block was attributed mostly to the availability of canal water, which had not been a part of N.E.S. activities. Of course, the contribution of the N.E.S. in initiating innovations and in bringing about changes in farm practices has to be recognized.<sup>10</sup> The evaluator, in such situation, has to pinpoint the real cause of development ; to do this, and to determine the effects of a particular measure, are problems beset with great difficulties.

7. Such an observation has been made in regard to the working of Community Development Projects in: "Success of Community Projects—Comparatively or Not Particularly?", *The Economic Weekly*, Vol. X, No. 3, January 18, 1958, p. 70.

8. The Fourth Evaluation Report on the Working of Community Projects and N.E.S. Blocks, Vol. I, Programme Evaluation Organization, Planning Commission, New Delhi, April, 1957, p. 20.

9. Within the framework of policy-objectives.

10. Singh, H. K., "Agriculture in N.E.S. Blocks," *The Economic Weekly*, Vol. X, No. 29, July 19, 1958, p. 983.

It may also be stated that combined benefits, direct and indirect, of various development programmes in a developing country like India will be greater than the sum of the individual programme benefits, because each programme may help the execution of, and intensify other programmes through multiplier and acceleration effects. This limitation, on the evaluation of an individual programme should also be kept in view.

It has been suggested that since it is not very scientific to evaluate individual programmes, the technique "should embrace all activities and all programmes, and measure them *en bloc*."<sup>11</sup> This approach will provide indicators of changes that our rural economy is undergoing, and will also tell about the profitability of all the development programmes combined. But it is of utmost importance to find out (for purposes of the allocation of resources available for development planning) the contribution that an individual programme is making, and the evaluator cannot afford to neglect the problem of isolation and measurement of the effects of individual programmes.

---

## TECHNIQUES OF EVALUATION OF PROGRAMMES OF RURAL DEVELOPMENT

RANJIT GUPTA

*Research Division  
Indian Co-operative Union, New Delhi*

The primary objective of a programme of rural development is to bring a change in the existing socio-economic set-up in the rural sector. In planning such programmes it is, therefore, essential to have knowledge of the process of economic and social progress. Evaluation studies are concerned with this aspect and are directed towards "measuring of progress in attaining objectives and balancing the value of this progress against the effort involved in achieving it."<sup>11</sup> The purpose of such studies, in general, is to obtain a critical judgment about all problems important for working of the development plan and to use the knowledge so acquired for further improvement.

The tasks involved in evaluation studies are two-fold. The first is to measure rural change in terms of the progress of objectives and activities of the programme, and the second is to measure the cost of efforts involved in attaining the results. The purpose of this paper is to suggest a theoretical framework for undertaking these tasks. In evolving this framework, though consideration has been mainly given to rural development programmes of national importance, like the community projects, emphasis on programmes of smaller scale and narrower range has also been given. The idea is to present a model which would be applicable to both macro and micro analyses. Emphasis has, therefore, been given to broader

---

11. Acharya, Smt. Hemlata, "Techniques of Evaluation of Programmes for Rural Development", *AICC Economic Review*, Vol. X, No. 16-18, January 9, 1959, p. 68.

1. *Agricultural Demonstrations: Handbook for Agricultural Advisers*, E.P.A., Paris, 1955, p. 73.

issues connected with 'techniques' of evaluation of rural development programmes. Depending on the nature and scope of a programme, a detailed method of performing an evaluation could be worked out from the suggested framework. The presentation of the paper consists of 'methodology of work', 'approach to be taken in evaluating rural change', 'collection of data', 'analysis of facts', 'use of statistics', 'utilization of results and measurement of ratio of result to efforts' and 'written presentation' of the study.

### *Methodology of Work*

In evaluating programmes of rural development the methodology of research needs to be based on the "planned purposive" type.<sup>2</sup> This is a research which is planned with specific purposes or ends in view. And as such, the existence or non-existence of specific economic relationships ought to be determined at the outset and be then measured. The steps needed in planning such studies are :

- (1) a clearly defined statement of the objective of the study ;
- (2) a careful qualitative analysis of the problem identifying all the factors in it and the variables to be studied ;
- (3) a review of all the available data suited to the study as also ascertaining the need for additional data ;
- (4) an outline of procedure for obtaining these data, including plan for field surveys, if needed ;
- (5) an analysis of the data to determine the significance of the various factors identified in the qualitative analysis ; and
- (6) drawing of inferences and statement of conclusions.

### *Approach to be taken in Evaluating Rural Change*

Rural change can be studied either *ex-post* or *ex-ante*.<sup>3</sup> The *ex-ante* approach is to view rural change "as a part as well as a consequence of the process of economic and social progress." Here the process of change is studied "in terms of a set or a system of simultaneous relationships likely to hold in the dynamics of development." In the case of *ex-post* approach, rural change is studied "purely in terms of the consequences or end results of the dynamic process." Here the interest mainly lies in measuring the effect of the process of economic development on the rural sector at different points of time.

The frame of reference for evaluating changes in *ex-post* approach is the development plan itself. The extent of change is measured in terms of comparative statics, like comparing outputs and inputs at specific intervals of time with the planned targets. The effectiveness of the change is indicated by the degree of the fulfilment of the targets. This approach helps in making broad appraisal and general assessment of the operation of a plan of development, but is inadequate for making a detailed study. The current evaluation reports of the Community Development may be cited as examples of this approach.

2. For details see Economics of Agriculture for India by Mr. J. D. Black and Mr. H. L. Stewart.

3. 'Methodology of the Study of Rural Change in India' by Jyoti P. Bhattacharjee, *The Indian Journal of Agricultural Economics*, Vol. XI, No. 1, p. 60.

In the case of *ex-ante* approach the purpose is, first, to test the validity and precision of 'a set or a system of simultaneous relationships' involved in the dynamics of development. And later to use them as a frame of reference for evaluating changes actually taking place. This approach starts from a set of hypotheses and assumptions which are based on the present knowledge of economic development and relies on induction for their validity. It is a comprehensive approach and offers a satisfactory theoretical basis for evaluating rural changes. It can be used for all the purposes for which the *ex-post* approach may be used. In addition, this type of study may be used for predicting variables of the 'endogenous' type. The effect of external forces on the rural sector may also be incorporated into the system of 'exogenous' variables as far as these can be quantified.

The hypotheses and assumptions under the *ex-ante* approach will depend on the objectives of the development programme. These objectives may vary from programme to programme, but broadly speaking, the chief objectives of a programme of rural development in an under-developed country (especially in India) are :-

- (1) to increase progressively the economic and social productive capacity of the rural sector ;
- (2) to raise the level of consumption and the standard of living of the rural people along with the rise in the productive capacity and the needs of the country ;
- (3) to re-organise the economic and social structure in the rural area on democratic and equalitarian lines ; and
- (4) to increase the surplus of rural output so as to make it available to the non-rural sector.

These objectives may not be acceptable to those who believe in some other type of socio-economic development. For instance, the third objective may not be endorsed by those who are strongly inclined to a totalitarian pattern of society. Similarly, those who believe in 'Sarvodaya', where self-sufficiency of a decentralized unit is stressed, may not accept the fourth objective. However, it is not the purpose of this paper to deal with these questions in detail. The intention is to establish a 'base' for evaluating rural changes, by indicating the hypotheses that could be formulated from the foregoing objectives. The exact formulation of these hypotheses will depend on the nature and scope of the analysis attempted. But broadly speaking, these sets of objectives lead to a corresponding set of assumptions. These are :

- (1) assumption, derived from the first objective, regarding inputs and outputs and their combination in a changing technological framework ;
- (2) assumption, as based on the second objective, concerning :
  - (a) functional and sector-wise distribution of national product ;
  - (b) real and monetary consumption and saving in the rural sector ; and
  - (c) the influence of changes in the standards of living and demographic factors within the rural area ;



- (3) the third objective raises assumption regarding personal distribution of the national product ; taxes and prices, social and economic institutions like the family system, village organizations, occupational structure, the land system, the credit structure, etc. ; and
- (4) the last objective raises assumption regarding marketing, finance and prices.

It is against these assumptions that enquiries be made, first, to test the validity and accuracy of their relationships and later, using them as a frame of reference, to measure rural change in terms of progress of objectives and activities of the programme.<sup>4</sup>

#### *Collection of Data*

For performing an evaluation, the facts to be collected may be grouped under the following three heads :

- (1) facts about the situation at the beginning ;
- (2) facts about the performance of the programme and its impact on the changing pattern ; and
- (3) facts about the results of the programme activities.

In collecting the needful information, firstly, the factors and the variables to be investigated have to be ascertained. The next step would be to scrutinise all the pertinent data available and to estimate the need for collection of additional data. From the preceding assumptions an idea can be formed of the important variables or relationships or both for which quantitative information would be necessary. Broadly speaking, these variables may be grouped as those falling under the 'economic system' and those coming under the 'social system'. The variables under the 'economic system' would pertain to production ; income and consumption, marketing and prices ; and finance. Under the 'social system' the variables or relationships to be investigated would be family size and its structure ; class, caste and other group structures ; health and sanitation ; education and recreation ; and social mobility inside and outside the sector. These variables

---

4. In this connection, reference may be drawn to the Fourth Evaluation Report of Community Development (Vol. II) where it has selected six criteria for measurement of social change in the rural area. These criteria are :

- "1. Awareness among the rural people of possibilities of improvement through adoption of scientific methods in various fields of activity.
- "2. Confidence in their own ability to adopt these practices.
- "3. Realization of advantages of co-operative action.
- "4. Community life.
- "5. Understanding and co-operation between the officials and non-officials.
- "6. Awareness of possibilities of economic and social improvement through the development programmes and a feeling of participation in these, among the underprivileged groups."

According to the report these criteria are based on the objectives of the community development programme and have been evolved by giving emphasis on determining the "changes in attitude and ways of thinking among the people." However, it acknowledges the difficulty of assessing social change because of paucity of basic data and lack of well-defined concepts and methods. Probably because of these difficulties the assessment made is not only inadequate but also unsatisfactory as it fails to provide a dynamic theoretical framework for evaluating changes. Had the basis for evaluating changes been the assumptions stated in the text, (particularly 2(c) and 3), the study would have been much more comprehensive and satisfactory.

are more or less the same in both the approaches of *ex-ante* and *ex-post*. However, in *ex-ante* approach quantitative information would be required over a longer period and at much shorter intervals (preferably 6 months or a year).

Much has been said about techniques of field surveys and the methods to be adopted.<sup>5</sup> The purpose of this paper does not include elaboration of these points. However, while collecting information through field surveys the problems involved in the study must be carefully analysed so that the data obtained may not be found either inadequate or unnecessary.

Facts about performance of the programme must be systematically recorded by all those who are responsible for administration and operation of the programme. Each field personnel must keep a diary for recording not only activities and current progress of work, but also the problems and items that are important for the work itself and for its results. These records should be regularly submitted. To verify the correctness of progress reports, it is desirable to have some kind of spot-checking.

#### *Analysis of Facts*

The steps needed for analysis will depend on the magnitude of the data collected. Usually, these steps are : editing, classifying and coding the schedule data.

The methods of analysis, however, must give emphasis on inter-actions and inter-relations among the variables. The objective should not only be to measure changes in the magnitudes of the variables but also to measure the changes in the coefficient in functional relationships. While attempting co-relation analysis emphasis must be on the soundness of the qualitative analysis ; otherwise some irrelevant factors may enter into the results and may thus make them insignificant or even useless.

#### *Use of Statistics*

In evaluating programmes of rural development, statistical concepts and methods are used at two stages. In the first place, when data are collected from primary sources, usually, the sampling technique is applied. Next, when the data collected are assembled, processed and analysed, use is taken to statistical methods. If the approach of the study is *ex-post* the technique of random sampling would serve the best purpose. If, however, *ex-ante* approach is taken un-representative samples can quite often be an advantage.

The type of statistical aids to be used in presenting the findings of investigation will largely depend on the class of people for whom the evaluation report is being prepared. Since rural sector is imperfectly monetised it is, however, desirable to use physical units simultaneously with monetary units. While presenting statistical tables, if more than two factors are involved, preference should

---

5. For a detailed study on this subject the following publications may be consulted : (1) Economics of Agriculture for India by John D. Black & Hugh L. Stewart; (2) Fact Finding for Rural People issued by the Food & Agriculture Organisation ; (3) *The Indian Journal of Agricultural Economics*, Vol. XI, No. 2 (Proceedings of the 16th Conference, 1955).

be given to cross tabulation showing the relationships existing among three or more factors. If the programme objectives are clearly defined and quantitatively stated the results can be expressed as "percentage" of objectives. In case it is detected that this is not possible, the logical conclusion would be that the programme objectives have been indefinite and vague.

#### *Utilisation of Results and Measurement of Ratio of Result to Efforts*

If the objectives of the programme have been realised, the evaluationist is tempted to say that results have been obtained. In doing so, one tacitly assumes that the objectives of the programme are appropriate. This may be an inaccurate estimate unless evaluation is also made of the appropriateness of the objectives adopted. Otherwise, the value of a programme would be lost and it may not be effective at all. Again, the results obtained may partly or wholly be due to influence of outside factors. Thus adoption of a new practice of farming may be due to participants' knowledge about such activities as radio broadcasts, newspapers, propaganda bulletins and the like. All these stimuli may occur very independently of the development programme, even though they may all lead towards same general direction. Therefore, in discovering results achieved, observation must be made of a region not covered under the programme, but exposed to all other influences.

In order to measure "efficiency-cost ratio", the results achieved must be weighed against the efforts made in the execution of a programme. Such a measurement will be possible only when the 'efforts' made have been reduced to a common denominator. The best way to do so is to convert the 'efforts' into money values. The time spent by the field personnel will also have to be expressed in money and must be attributed to the total cost. Thus the real measure of efficiency of operation of a development plan is the ratio of results to efforts. Unfortunately, most of the evaluations today seem to disregard this part of the study.

A critical opinion about the programme can only be formed when the 'cost-efficiency ratio' has been measured and also reasons have been found for non-fulfilment or part-fulfilment of programme objectives. The strong and weak points of the programme and its performance need to be discovered before generalisations helping to shape future policy could be arrived at.

#### *Written Presentation*

The effectiveness of a report ultimately depends on its written presentation. For, until the results obtained have been properly organized and put into readable form, the value of the study is restricted only to the research worker himself. To write effectively means to set forth the subject clearly so that its readers can follow it with a minimum of difficulty. The researcher's job, as a writer, is to make his reader apprehend his meaning readily and precisely. It is not intended here to deal in detail with the attributes of good writing.<sup>6</sup> However, while drafting a research report all subjective statements or expressions that are likely to create

6. A few of the books which may be consulted for knowing the attributes of good writing are: (1) Plain Words by Sir Ernest Gowers; (2) Modern English Usage by Fowler; (3) Usage And Abuse by Eric Partridge; (4) British And American English Since 1900 by Eric Partridge & J. W. Clark,

confusion among the readers must be avoided. Phrases, such as, "On the other hand", "In other words", "It is interesting to note", etc., are not appropriate. For, if "it is interesting to note" to the author, it need not necessarily be true for his readers. Similarly, why say "In other words", if the matter has once been clearly explained.

The presentation of the report must be worked out according to a logical sequence of topics. According to Mr. Colvin and Mr. Mighell such a plan of organization would be to have : "First, a preface or foreword that will contain acknowledgements; the contents ; a brief readable summary (this is always written last) ; a few pages of introduction setting forth the problem and its background, and telling why and how the study upon which the report is based was made and for whom it is intended ; the main points brought out in the study, followed by minor points, all with suitable headings. Your long technical descriptions of procedures and any tables that contain background statistics belong in an appendix."<sup>7</sup>

---

### SOME PROBLEMS AND ISSUES INVOLVED IN EVALUATION WORK

T. Y. PATIL\*

*Assistant Professor of Evaluation  
College of Agriculture, Poona*

Since Independence, large development projects have been taken up in this country by the Government. Large sums of money and vast quantities of human resources are utilised for them. In order to change the face of the countryside, village development activities are taken up under these nation-wide programmes which form an integral part of our Five-Year Plans. The programme encompasses Agriculture, Animal Husbandry, Irrigation, Co-operation, Education, Communication, Health, Village Industries, Panchayat and Local Self-Government, in fact, all aspects of life. A slow evolution is in the making through these programmes to bring out all-round integrated development of village communities. It is proposed to bring by 1963 the entire country under this programme which has assumed the form of a great movement.

In order to make this movement useful and healthy on a continuing basis, it is necessary not only to assess the progress and achievements of these programmes, but also to find out appropriate methods and techniques to carry out development works successfully, to locate barriers and to find out appropriate solutions to overcome them. This emphasises the need for a continuous evaluation of these programmes. The Programme Evaluation Organization has been set up for this purpose. Besides, different committees were appointed and seminars and conferences were held to study and evaluate the working of these projects and programmes.

---

7. The Place of Writing in Economic Research", *The Indian Journal of Agricultural Economics*, Vol. XIII, No. 2, p. 13.

\* The views expressed here represent personal views of the author.

An attempt is being made in this paper to discuss some of the issues and problems that need considerable thinking while carrying out evaluation work.

#### EVALUATION—MEANING AND IMPORTANCE

Evaluation is a big word, sounds academic. In simple terms evaluation means “to ascertain the value or quality of something or to appraise carefully. The term evaluation is derived from the Latin word “valeo” means “to value”.<sup>1</sup> In a broad sense, evaluation may be thought of as a process or a method of analysis by which one is able to understand and appreciate the relative merits or deficiencies of programme, processes, methods, situations, groups and persons.”<sup>2</sup> Evaluation of development programmes thus suggests the application of the fact-finding or scientific process to the problems, and processes connected with the conduct and operation of these programmes.

It fairly indicates that evaluation of programmes provides us with estimates of programme achievement, and programme progress and provides a guidance for the conduct of programme activities. By evaluating a progress of work, one is able to locate basic needs, of the group, identify some of the barriers to programme success and thus to suggest ways and means to overcome these obstacles to improve the programme. Evaluation of achievement can point out whether our efforts, methods and processes were successful in achieving the programme goals. It thus contributes to the planning and execution of programmes of which it therefore forms an integral part.

#### EVALUATION AND OBJECTIVES

In evaluation work, the programme needs to be explored for evaluation into its two main parts. The first dealing with the general policy of the programme, *i.e.*, objective, relationship to other programmes, etc., and the second dealing with ways and means provided to carry out these objectives into effect. It might include items falling under procedures, facilities, situations, teaching methods, professional workers, etc., that are made available to execute the programme. The first part deals with the very core of the programme, *viz.*, the purposes for which it is meant. These are the objectives or the direction in which our efforts are made to carry out the programme and they are very essential for evaluation work.

The fundamental objective of development programme is to achieve all-round integrated development of rural communities. This is very broad and encompasses the varied aspects and different sides of rural life—economic, social, educational, organizational, etc. In the light of this, the fundamental objective can therefore be divided into somewhat generalised, yet definite objectives as under :—

- (i) To improve economic condition of farmers.
- (ii) To provide educational and recreational facilities in rural areas.

1. Evaluation in Extension, United States Department of Agriculture *Federal Extension Service Bulletin*, June 1956, p. 1.

2. Kelsey, L. D. and Hearne, C. C.: *Co-operative Extension Work*, Comstock Publishing Associates, Ithaca, New York, 1955, p. 218.

- (iii) To improve health conditions in rural areas.
- (iv) To improve existing village crafts and organising new ones.
- (v) To improve housing and family living conditions.
- (vi) To establish and organise village panchayats and co-operatives.
- (vii) To provide programmes for village women and youth.

These are referred to as general objectives. Though they look definite, are still vague and therefore, need to be stated more meaningfully and specifically so that they can help in establishing precise targets to work, preparing working plan, selecting teaching methods, and executing plan of action in proper way. The general objective for example, "To improve economic condition of farmers" can be divided into more specific objectives such as :—

- (1) To produce farm commodities efficiently by adopting improved farm practices and techniques.
- (2) To increase milk production of dairy animals by adopting improved breeding and feeding practices and so on.

These objectives are clear to work with and are called as "working objectives". They contribute to achieve general objectives which in due course of time help to achieve the fundamental objective.

The objectives at this level are more concrete. They indicate to extension workers very clearly and specifically what is to be done, with whom to work, when to work, how to do the job and thus guide them in achieving the goal successfully. In this way, when we know the definite subject-matter taught, methods used for it, the population involved in it and the goal to be achieved, we can evaluate the achievement of the particular objective very easily and correctly. Thus, working objectives not only guide in carrying out the work, but also help to carry out the evaluation of the same in all respects. We are, therefore, more concerned with the objectives at this level. As working objectives in turn contribute to achieve the fundamental objective of the programme, evaluation based on objectives at their level, similarly contributes to the evaluation of the development programme as a whole, in due course of time.

The objective and the evaluation are thus, inextricably interwoven. Many a time, they are considered as independent of each other and when they are thought so, they both suffer. Objectives are properly understood and become feasible guides to execute the programme only when we try to perceive them and revise them in keeping with the information the evaluation has revealed. If evaluations are made independently of objectives, they are to deal with almost everything except the fundamental purpose for which the programmes are planned. Usually such evaluations are based on some assumptions regarding facilities and methods utilised in executing development programmes. We may not be knowing what facilities and methods are good until we get a clear idea about the objectives and by the time we have this understanding, we will probably find out that these facilities and procedures vary widely from community to community and from block to block.

Sometimes traditional or theoretical standards are applied which may not be justified by their validity and practicability. Standardised evaluation tech-



niques and procedure, if applied nation-wide, may lead us astray. The evaluation of any programme, therefore, must be based on its working objectives, as these objectives alone can indicate clearly the kind of the evidence to be obtained for evaluation work under particular situation.

#### EVALUATION : OBJECTIVE AND CRITERIA

We do not get clear idea as to the meaning of "objective" until we think of the evidences or outcomes they expect to obtain as objectives are being achieved. Measuring of evidence is the best way of determining the progress towards the objective. Evidences of progress towards the objective are known as "evaluation criteria."<sup>3</sup> Depending upon the type of the objective and the nature of its outcome, the progress or achievement may be in quantitative or in qualitative terms. To evaluate, for example, the achievement of an objective as "To produce farm commodities efficiently," rather definite criteria in quantitative term could be established as "increase in per acre yield of crop." Some of the objectives of development programme though they are in a position to produce observable changes, cannot show changes in quantitative terms. The objectives which are commonly referred to as "educational objectives", bring out changes in attitudes, values, skills and behaviour of individuals in qualitative terms. In evaluating the outcome of such educational objectives, appropriate criteria need to be developed. However, criteria similar to efficiency factors in agriculture, can be useful for this purpose. For example, the criteria for an objective "to grow paddy by Japanese method" could be as under :—

- (1) awareness of the method,
- (2) knowledge of standard practices used in the method,
- (3) ability to adopt these practices,
- (4) acquisition of skills required to adopt these practices, and
- (5) awareness of possible socio-economic advantages likely to be derived from the method.

Similar attempt is made by the Programme Evaluation Organization to evaluate "changes in attitudes and ways of thinking among the people".<sup>4</sup> But major emphasis so far is given to evaluate the progress and achievement where outcome is in quantitative terms as they are pointed out more specifically. It means that qualitative outcome is not viewed with due importance. Perhaps the greatest confusion in evaluation has arisen because of our tendency to confuse objectives which have to do with the improvement of soils, crops, livestock and the like—which may be called as agricultural objectives—with the educational objectives. For example, an agricultural objective has to bring about an improvement in agriculture while an educational objective is directed towards the growth and changes in the people. Improvement in agriculture may result without education through ways such as imitations, subsidies, reward competitions, propaganda and even by force and disappear when such forces, supports and inducements are withdrawn. If we want to improve agriculture, the way of working to this end is to

3. Patil, T. Y.: Evaluation of Agricultural Education, Unpublished paper submitted to Michigan State University, U.S.A.

4. Fourth Evaluation Report on Working of Community Projects and N.E.S. Blocks, Vol. I, P.E.O., Planning Commission, Government of India, New Delhi, 1957.

bring changes in attitudes, values and interests of farmers, who, in turn, will bring changes in agriculture. That means, those engaged in extension and community development work should not use people to improve agriculture, but should use agriculture to improve and change people, who in turn will improve agriculture. More emphasis, therefore, needs to be given to educational objectives which bring changes in attitudes, values and behaviours of people and thus, evaluation of such changes in qualitative terms, needs to be recognised properly. These qualitative outcomes in turn, are responsible for quantitative and specific changes lasting long. These qualitative changes in attitudes, values, interests, skills and abilities can very well be evaluated by attitude scales, value tests, skill ratings, performance rating and using similar devices.

Very commonly, changes in attitudes, values, behaviour and skills of people are evaluated indirectly by measuring physical achievement made by them in quantitative terms. Caution must be exercised in using this procedure because changes in agricultural or physical achievement may not certainly be evidence of educational achievement. These achievements, as pointed out before, can be induced by external stimuli. Evaluation of such outcomes, if done with proper judgment, is of value, otherwise not. If physical achievements are observed continuously for a long time, then they are more likely to be indicative of an educational achievement.

#### EVALUATION : CRITERIA AND STANDARD

On the basis of evaluative criteria suggested above, standards of achievement can be developed as a unit of measurement. Standard for criteria "increase in yield per acre of crop" can be established as :—

- (1) Increase in yield per acre by 40%
- (2) „ do „ 30%
- (3) „ do „ 20% and so on,

and achievement can be measured with the help of such standards. Standards regarding qualitative outcomes like changes in attitudes, abilities, etc., of people can be expressed in descriptive terms such as superior, average, inferior, etc. To establish standards or goals of efficiency it is desirable to know the achievement possible or made by others under similar conditions.

#### EVALUATION : WAYS AND MEANS

Another aspect to be explored in the evaluation of programme deals with the ways and means provided to carry out the programme objective into effect, *i.e.*, procedures, used facilities-personnel made available, etc. We, too, commonly judge or evaluate the programme based upon the ways and means as they contribute towards the attainment of objective. Another notion behind it is that the progress and achievement of programme depend upon the effectiveness of ways and means. Increasing attention is obviously to be given to provide development blocks with more adequate equipment, facilities, personnel, etc.

The ways and means are indirectly connected with results and by themselves are not valid criteria. However, their evaluation should not be discarded ; it should be a part of the total evaluation. They are means to an end and secondary to achievement.

In evaluating ways and means, a comparison is made of the facilities existing or provided with those that are required as ideal standard or approved for development work. Second method to evaluate ways and means, would be to compare them with those of other similar programmes showing desirable progress. These approaches give comparative idea in qualitative terms.

#### CONCLUSION

All this indicates that in evaluating any programme, different approaches are used. To understand them, firstly, we must know the different processes and methods employed in carrying out the programme and secondly, different procedures and techniques that are utilised in evaluating the programme. Depending upon the situations, objectives, ways and means available, progress and achievements of the programme vary. The evaluation of the same is to be considered again in the light of the purpose, scope of the investigation and the facilities available to carry it out. Therefore, this also suggests that, in evaluation, understanding of the merits and limitations of each of the research methods, techniques and procedures to be utilised in such investigation is necessary. Evaluation is, therefore, a complex process.

Evaluation of our development programmes have become more complex because of their varied dimensions. These programmes cover all aspects of life—social, economic, educational, cultural, organisational, etc. In their evaluation therefore, social, economic, educational, psychological and other elements involved and their influence upon the progress and achievement, need to be recognised with due importance.