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1. Costs in relation to size of Farms.
2. Methods and Objects of Rural Surveys.
3. Problems of Rural Credit.
4. Abolition of Zamindari.

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THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS
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AIMS AND OBJECTS.

To promote the investigation, study and improvement of the economic and social conditions of agriculture and rural life through:—

(*a*) periodical conferences for the discussion of problems;

(*b*) the publication of papers, separately or collectively; or in a periodical which may be issued under the auspices of the Society;

(*c*) co-operation with other institutions having similar objects, such as the International Conference of Agricultural Economists and the Indian Economic Association; etc.

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METHODS AND OBJECTS OF RURAL SURVEY

By

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It has been rightly realised that before prosperity would dawn on India the appalling low standard of living of its farming community has got to be substantially raised. But this realisation will amount to a wishful thinking unless the full economic significance of the problem is systematically analysed and appreciated. It will be nothing but a mere talk about raising the standard of living of the agriculturists without realising what it means in the Social science of Economics—the science for making use of science.

Will increased yield per acre through the help of physical sciences necessarily provide a better standard of living? Certainly not, because the cost of production may be much higher, leaving no better net income to the farmer or the demand for the products may be too little to ensure a fair price to him.

Even higher agricultural prices show only certain aspects of the problem because unless costs of production move almost in harmony with the changes in prices, the financial position remains unaltered.

The true picture of the economic aspect of Agriculture will only come out when the economics of production, marketing, distribution and management is systematically studied by the method common to all sciences. This method consists in collection, grouping and analysis of data in a systematic manner and thus Rural Survey becomes the first requisite for any real understanding of the economic position of the fallen farmers.

Rural survey systematically carried out will throw light on the economic aspects of production, marketing, distribution and management in agriculture which means, in other words, on the efficiency in farming.

Crop production is the result of a combination of soil, plants and extraneous raw materials like fertilisers, insecticides, manual labour and animal labour or mechanical power; and every item here described is an input and the result is output. Animal husbandry rests on this combination plus the raw materials like feeding stuffs and medicines with further labour of all types. Outputs are the results of inputs with some factors such as weather which may be beyond the producer's control.

Inputs are chosen and use in hundreds of choices and actions determining the outputs, for example, if fertilisers are too freely or too meagerly applied, low efficiency will be caused in production even though other inputs are adequate.

Efficiency whether of motor cars or farming is always measured by the ratio of output to input. Expressed in the common measure of money values, lower the expenses (input) higher will be the receipts (output). Rural surveys often surprisingly reveal how by the judicious use of Inputs individual farms show the most productive and profitable business in comparison to the neighbouring farms although situated in the same geo-physical environment.

But different criteria of efficiency are applied by interested parties.

(*i*) The worker will judge it by the wages he is able to earn and certain other conditions of employment.

(*ii*) The landlord will judge efficiency by the rent he is able to obtain and the maintenance of the condition of the land and its equipment.

(*iii*) The farmer will judge his efficiency by the profit he makes and by some personal and social satisfaction which he gets from the environment.

(*iv*) A nation will judge agricultural systems by output of nutritive food-carbohydrates, fats, protein, vitamins and minerals and raw materials for industry per acre. The nation will judge by the quantities and qualities of products offered for human use and consumption in relation to its requirements, beyond this the nation has never had any clear criteria.*

As a necessity we must apply the ' calorie ' test or the physical and bio-chemical measures to agricultural outputs in relation to human food requirements duly modified by adding vitamins and minerals to the elements expected in food supplies because after all the chief aim of agriculture is to feed man.

But it must be realised that the ' calorie ' test of efficiency is not a true test of efficiency in production but only a test of capacity to feed the nation (this the state does not seem to realise). It is not a test of efficiency in production because we are not able to measure and value agricultural outputs and inputs in physical and bio-chemical terms. Neither outputs nor inputs can be fully measured in terms of energy values.

All the above criteria of efficiency in production are in a way, subjective. They are unscientific and, therefore, unproductive of the maximum wealth from agricultural resources.

The only objective or scientific measure of efficiency in farming is the net output per man—gross output less cost of raw materials and depreciation of equipment. It is this test of efficiency in production that would bring about maximum production with fair profit to all the factors of production.

It is the amount of the net output that is left for distribution amongst the three factors of production. Net output is the life-blood of the agriculturists as a community. The contribution of the owner's land and equipment, the contribution of the farmer's capital and directive energies of the worker's energy, all have resulted in the net output.

In order to keep the agricultural population satisfied and satisfactory from economic and social points of views, it is necessary to maintain a high standard of net output per man in agriculture and all other standards of production specially the important ' calorie ' test of production have got to be adjusted to make this condition possible.

The farming community will be healthy, satisfied and progressive adding more and more wealth to the nation only when the amount of net output per man is high enough to maintain a better standard of living without which its energies cannot be fully and progressively employed for ever increasing efficiency in farming, thus contributing to the well-being of man.

It is somewhat startling to persons who accept current general ideas to be told that a large part of modern material civilisation arose and still rests on rising efficiency in agriculture† —such is the importance of efficiency in farming.

A word about international comparisons in efficiency of production may be useful. In a list of 12 countries, New Zealand, Australia, Great Britain, United States of

*Efficiency and output in Agricultural Systems by Prof. A. W. Ashby.

† The Rise of Efficiency in Agriculture by Prof. A. W. Ashby.

Amerrica, Denmark, Canada, the Netherlands, Belgium, Switzerland, France, Germany and Eire. The position of Great Britain and Australia and New Zealand may be mentioned.

	Great Britain.	Australia and New Zealand.
(*i*) Persons fed per worker	3rd	1st
(*ii*) Value of output per worker	3rd	1st

In a test with 7 European countries Great Britain, Germany, France, Denmark, Belgium, the Netherlands and Switzerland.

(*iii*) Average income per wholetime person engaged. Great Britain's position is 1st.

In India the output of nutritive food from lands per worker is so miserably inadequate that a standard very similar to that of Australia and New Zealand has got to be vigorously pursued to lift the long under-nourished people of India. This again has got to be adjusted to the supreme measure of efficiency in production by net output per man.

Rural Survey will essentially aim at investigating into the elements of efficiency in farming and light has got to be thrown chiefly on the following important aspects.

Inputs (Expenses).

(*i*) Seeds and Fertilizers.
(*ii*) Rent and Rates.
(*iii*) New Implements and machines.
(*iv*) Paid manual Labour—Regular and casual.
(*v*) Unpaid family Labour.
(*vi*) Managerial.
(*vii*) Feeding stuffs.
(*viii*) Farm animals and dairy products.
(*ix*) Miscellaneous, such as repairs, veterinary and medicines etc.
(*x*) Depreciation.

Outputs (Receipts).

(*i*) Crops.
(*ii*) Farm animal, chiefly cattle and goat, if any.
(*iii*) Dairy products.
(*iv*) Machinery and Implements.
(*v*) Miscellaneous, such as produce charged to Labour, Farm produce consumed in the house, man or cattle hired out etc.
(*vi*) Appreciation.

It is the fixed costs of rent, interest on investment, depreciation, taxes, wages for himself and family which the farmer neglects when farm prices are not adequate and this is the common lot of farmers.

The farmer, in such cases, compromises with the landlord and creditor on rent and interest payment, postpones depreciation replacement, fails to pay the taxes and takes on himself the bare subsistence living as his wage and when the situation

worsens the neglected fixed costs catch up with him. "He cannot indefinitely fail to maintain his land, buildings and equipment or to meet rent or mortgage payment. Some of the steps the individual is forced to take under these circumstances are contrary to the long-term interests of agriculture and a menace to the nation." *

Therefore a regular rural survey of the costs of production has got to be maintained to study the condition of the Industry of farming so that the 'menace to the Nation' may be averted by due assistance.

The rural survey will then throw light on (*a*) Efficiency in farming by the standard of (*i*) Rent, (*ii*) Wages, (*iii*) Persons employed, (*iv*) Acreage, (*v*) Gross output per man, (*vi*) Net output per man and on (*b*) Output for a given (*i*) Input, (*ii*) Rent, (*iii*) Capital, (*iv*) Acreage, (*v*) Wages, (*vi*) Person employed.

The nutritive aspect of our food has so much and so long deteriorated that it would be highly worth while measuring the efficiency of agricultural systems in India in terms of food values of animal protein chiefly milk protein, in full keeping with the economic standard of efficiency of production in farming in terms of net output per man.

Method :—(1) *Economic Survey* ; (2) *Financial Survey* :

Rural surveys for Farm management have commonly been carried out for all farms taken together irrespective of the different nature of farms. This procedure is badly informative and unscientific.

It is of paramount importance that separate surveys be conducted for different types of farms because each type of farming has its own economic condition quite often entirely different from others. Different types of farming may have different costs of productions and different outputs. Not only the average yield of wheat per acre, for example, is different in a Diara land from other lands but some of the costs of production too, are different.

It would be not only misleading but unscientific also to frame any opinion or policy on data not representative of the exact economic situation.

Before surveys to study the efficiency in farming are started, it is essential to divide the farms of a given locality into type-groups so that the data collected will represent the financial and economic position of each type of farming separately. Surveys should indicate separately the fortunes of farms of the same type group situated in similar situation so that the economic condition of the state of farming for the different farm types in a locality may be known.

The farms of a place will be divided into different types of farms according to the type of the land and composition of the receipts and records of each type of farming are to be maintained separately for analysis and study.

A short description of Type Groups may be given.

(*i*) *Mixed Farms.*—It is more numerous everywhere. The characteristics feature of this group is that more prominence is given to the cultivation of arable crops while the output of dairy products is of minor importance or negligible. Sale of cash crops is of great importance.

(*ii*) *Dairy Farms.*—This group will include those farms that resemble the mixed Farms and those that have their income chiefly from milk and milk products. The lower Dairy Farms will resemble the mixed Farms because a fair amount of the land is under arable cultivation. There will be some sale of crops but sales from milk and milk products form an important source of income.

* Farmers in a Changing World : U. S. Year Book of Agriculture, 1940, page 40.

In other Dairy Farms the land under arable crops is not high and the receipts from the milk and milk products are over 40 per cent. of the total receipts. They will be essentially Dairy Farms.

There are farms falling in a different group; those may be classed as cattle and goat (if any) farms chiefly situated where rough grazing is the chief cattle food. Here the rental will be low and acreage per farmer will be higher. Sales will be mainly cattle and goat and dairy products like milk and ghee. Crop sales will be of minor importance.

Furthermore, highly specialised farms growing one or two crops will have to be surveyed quite separately as a different group.

(1) *Economic Survey.*—Agriculture by nature, is scattered nation-wide and is too numerous to merit collection of economic data of each individual farm.

The economic position of agriculture, therefore, is best studied by the method of random sampling conducted of similar farms in each Type-Group.

Representative farms of the various Type-Groups are to be selected at random the most minimum number of which should be at least 50, a good minimum number being 200. The higher the number of samples the better is the result of analysis.

Data collected from such 200 representative farms will be near enough the accurate information on which sound analysis and inference could be made.

The average (weighted) arrived at from data so collected will be the basic information relating to each of the economic problems sought to be investigated. Further analysis on the average so obtained, could then be easily conducted leading to the study of the efficiency in production in each type of farming in a given locality.

The average of each Input and Output in the total 200 similar farms in each Type-Group, will bring to full light the true facts of the farming when expressed in proper form.

Data from 200 similar farms in each Type-Group may be collected as follows :—

(*i*) *Crops :* Opening Inventory—Quantity and Value, Acreage, Yield per acre, Sales—Quantity and Value, and closing Inventory—Quantity and Value.

(*ii*) *Livestock and Livestock Products :*—Opening Inventory—Number and Value, Purchases—Number and Value, Closing Inventory—Number and Value.

(*iii*) *Dairy Products :* Opening Inventory—Quantity and Value, Purchases—Quantity and Value, Sales—Quantity and Value, Closing Inventory—Quantity and Value.

(*iv*) *Other Purchases and Payments :* Cattle Food—Quantity and Value, Fertilisers and organic Manures—Quantity and Value of each, Rent and Rates—Value of each, Miscellaneous—Value.

(*v*) *Sales and Receipts :* Implements Sold—Value, Value of Produce charged to labour, Farm produce consumed, House, Bullock hired out, Man hired out, Breeding —fees of farm animals, and Government Grants if any.

(*vi*) *Labour : Paid Regular* (*Hired and Family*). Men 21 and over, Youths, Women and Girls, Value of Board and Cottage and other perquisites. The number, Total Time weeks and Total wages of each of the above.

(*b*) Unpaid Family Labour—men 21 and over, youths, women and girls. The number, total Time Weeks and Total wages of each of them; Farmer's wife and Farmer, their Total Times weeks and Total wages.

(*vii*) *Inventory of Implements and Machinery :* Opening—Number and value, Closing—Number and Value.

Summary of the Input and Output for each of the 200 farms in each Type-Groups may also be given as follows :—

	Expenses. Rs.	Income. Rs.	Opening Inventory. Rs.	Closing Inventory. Rs.
(*i*) Crops				
(*ii*) Livestock and Livestock Products.				
(*iii*) Cattle				
(*iv*) Goat, Sheep and Wool ..				
(*v*) Cattle Food				
(*vi*) Seeds and Fertilisers ..				
(*vii*) Rent				
(*viii*) Rates				
(*ix*) Dairy Products				
(*x*) Miscellanous.				
(*xi*) Government Grants ..				
(*xii*) Paid Manual				
(*xiii*) Unpaid Manual				
(*xiv*) Managerial				
(*xv*) Implement and Machinery				
(*xvi*) Cultivation and Residual Manures				
Total ..				

Difference + between Income and Expenses Rs.....
—

Inventory Difference (+) .. .. .. Rs.....
—

Total (Net Income) Rs. .....

From the records so collected informations regarding Farm management of a locality can be easily analysed. Informations such as Net output per man, Gross output. Inputs of land, labour and capital all can be easily worked out by simple mathematical calculation. Efficiency in production can be calculated side by side for each of the Inputs of land, labour and Capital.

(2) *Financial Survey.*—The financial analysis in detail is also necessary to study the changes in the organisation and income of farms of each Type-Group. For this, accounting will have to be done of the same farms for a number of years which would bring to light the changes in the farming relating to Increase or Decrease in Farm Income ; Profit and Loss, Expenses and Receipts per farm. Land utilisation under different size, crops, total acreage, average of Farms, Number of persons employed per farm for each Type-Group.

(*i*) Farm Income (in rupees) per farm may be studied in the following form.

Base year and other years: Receipts, expenses, cash balance, valuation, Difference and Farm Income.

(*ii*) Output per farm (say for the years, 1944 and 1945).

	Dairy Farms.		Mixed Farms.		Cattle & Goat.	
Crops	1944	1945	1944	1945	1944	1945
Cattle						
Ghee and Milk						
Sheep and Wool and Goat						
Sundries						

A similar chart may be filled for expenses, etc.