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BACKGROUND PAPER 6

TWO ARTICLES ON LAND REFORM

by

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The Economic Basis of Land Reform in Underdeveloped Economies†

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I.

LAND REFORM is one of the cornerstones of agricultural policy in most underdeveloped countries. These reform programs or proposals usually have three basic objectives—mixed in different combinations depending upon political and historical circumstances. These are: (1) turning over ownership and management of the farms to those who actually “till the soil,” (2) dividing up large holdings into smaller, more evenly distributed holdings, and (3) combining small operational units into larger, group units—i.e., “co-operative farms,” “collective farms,” “paysannat,” “state farms.”

Even cursory examination of these objectives will show that they may be—and in many cases are—in conflict with each other. Steps taken to implement one objective may very effectively counteract steps taken to implement another. For example, many of the farms which could

best serve as examples of realizations of objective one, i.e., farms fully managed and operated by the owner and his family, exceed the acreage ceiling and so would be broken up in effecting objective two. Furthermore, the achieving of objective three almost inevitably involves surrender, or at least radical change in the character, of objectives one and two. Paradoxically, local protagonists of “land reform” usually support all three objectives, while opponents resist all three. This testifies to the fact that progress on such reform has not been far enough to bring their divergencies into active conflict with each other.

Four years’ experience in India has brought me to the conclusion that most proponents and opponents of land reform are honestly concerned with the problems of their country and believe their particular ideas on the subject to be sound. It has brought me even more firmly to the conviction that virtually

†An earlier draft of this paper has had very substantial review by a large number of persons. All have written extensive, carefully thought-through comments, most of which have found their way into this final version. Although almost all of the reviewers have agreed with the major theses in the paper, and I have tried to incorporate their several suggestions, the final responsibility is of course my own. I should like here to express my sincere appreciation to the following: F. W. Parker, Assistant Director-General, Food and Agriculture Organization (hereinafter referred to as F.A.O.) and previously Chief Agriculturist, International Cooperation Administration in India, to whom, more than anyone, the paper owes its existence. Russel O. Olson, previously Ohio State University’s Group Leader in India; Dr. George Montgomery, Kansas State University’s Group Leader in India; Rainer Schick-

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none of the argument, for or against such reform, is built upon a solid, analytical, factual base. I suspect that this is true in most such countries where land reform is a burning social and political issue. If this were not true, surely both proponents and opponents would be more discriminating in their arguments, selecting certain types of reforms for their fervid support and other types for their equally fervid opposition.

It is at this point where I feel the so-called "foreign expert" can be most helpful in helping set up research and in relating available data to provide a reliable, factual basis for decision in the matter. What is lacking is not ideas but information; what is needed from us is not nostrums but evidence.

II.

Behind all the political discussion of land tenure reform is an honest groping for a system which will satisfy two deep and basic needs: (1) a much more productive agriculture as a base for national economic development, and (2) a sense of security (and participation) among the peasantry as a basis for needed political stability. Unfortunately these also are often inconsistent ends; economic progress itself is frequently a powerful catalyst of social turbulence and political instability. At best, many measures to achieve economic progress have very disrupting side-effects. Political generalship of the highest order is required to resolve or compromise these issues. Surely the political leaders require and deserve the best possible supply of reliable evidence, relating actions to their probable consequences, as a basis for forming these difficult judgments.

Evidence regarding the second issue—relating land reform proposals to their probable consequences for social and po-

litical stability or instability—is obviously hard to come by. People's social responses to given stimuli vary greatly from place to place and from moment to moment. People are highly capricious in this respect; any overt step taken by government is but one event in a long historical continuum. Its results will depend almost entirely upon its historical antecedents. Failure of a government to take a specific action might cause a social flare-up now which that action itself would have caused a decade or two ago. A healing social ointment in one setting may prove a blistering caustic in another. Social scientists might well be excused for not having provided highly definitive evidence on this issue.

And yet, quite a little has been done. Many, many articles and books have dealt directly or indirectly with various aspects of the problem. Historical examples—and in a few cases even studies—have been extensively cited from which inferences were drawn regarding the effects of various land reform measures upon social stability. Such inferences are almost inevitably gross in character. Many causes interact to bring about the consequences noted and usually little is done analytically to disentangle these causes so as to assess their individual net contributions to the observed effects. Such gross inferences give full and free play to the analyst's preconceptions and personal convictions, which often provide him with the major premise of his ultimate judgment. Nevertheless, such studies (dare I call them such?) are useful though probably in providing insights rather than reliable evidence. I have a hunch that, if all such studies were collated, a core of agreed-upon basic relationships might be discovered.¹ If so, this would be highly useful; and would be a very good place to begin an effort by

social scientists to provide really meaningful evidence on this fundamental issue.

It is rather on the first issue—the effects of various types of land reform activities upon agricultural productivity—that social science has most seriously failed its responsibilities. This is where the agricultural economists' help is most badly needed and where they should be most able to provide it. The agricultural economics profession possesses the necessary analytical tools to do the job, to throw direct light upon the implications of various aspects of land reform for agricultural productivity. The principal shortcoming appears to be that research has not focused sharply enough on the issue. Such evidence as can be assembled is often oblique to the problem, having been developed with other purposes in mind and thus not interpreted with reference to this problem to which public policy attaches so much importance. In consequence, land reform legislation operates largely in an informational vacuum regarding its economic bases; political leaders are obliged to substitute surmise for evidence and hence preconception for judgment.

The core relationship in this entire problem is that between size of operating unit and productivity. Much of the local argument in favor of cooperative or other forms of group farming, for example, is premised upon the assumption that there is a tremendous efficiency advantage in large-scale operations. Opponents of land reform base their arguments against the establishment of acreage ceilings upon the same premise—that agricultural pro-

ductivity will be reduced by the reduction in farm size. Persons who might be favorably disposed toward a more equitable division of landholdings, and who would oppose cooperative farming, feel obliged to take the opposite stand in the interest of economic development because they assume that there is tremendous positive returns to size-of-operations in agriculture. Political reasoning about land reform, somewhat subconsciously perhaps, appears to follow some such process as this: (1) Political requirements (and perhaps "social justice") demand the breaking up of larger into smaller holdings. (2) Because of the high man-land ratio, this involves setting acreage ceilings at levels far below optimum efficiency levels. (3) Since the economy cannot stand the strain of reduced productivity, these small units must somehow be recombined into larger group-units, or cooperative farms; or at least a large number of such cooperative farms are necessary to offset the reduced productivity potentials of the small owner-operated farms.

It can be seen that this reasoning process is premised throughout on the assumption of a highly positive relationship between size of farm operations and agricultural productivity. But this is by no means an established fact. The assumption is based upon a misinterpretation of the economics of so-called "western" agriculture and I fear even more so upon a misinterpretation of American farm management studies. The problem is simply different in the developed than in most of the underdeveloped countries. More specifically, the measures of agricultural efficiency appropriate to the developed countries are inappropriate to most of the underdeveloped countries. This statement requires some explanation.

¹ From his own observations and study of this issue, the writer would use for such an inquiry, as his key hypothesis, that a system of owner-operated farms of such size as to require family labor only would contribute the maximum toward political and social stability.

III.

Literally hundreds of American studies have confirmed that larger farms normally have correspondingly higher operator incomes, i.e., higher returns to the managerial and labor contributions of the farm operator and his family. In common usage this has erroneously been too often taken to be synonymous with greater "efficiency," leading to the conclusion that large farms are more "efficient" than small farms. They are! But only with reference to management and labor, i.e., with reference to returns to the human agent. They are not necessarily the most "efficient" in the use of other (non-human) resources. In the United States and similarly developed economies, this error creates little difficulty because the human agent is from a social viewpoint the most scarce factor of production. Much more importantly, in the United States maximum returns to the human agent in agriculture, which is obviously the economic goal of the individual farmer, is also roughly congruent with the broad objectives of public agricultural policy. And since management and labor are usually supplied by the same social unit, the individual farm family operator's net income is the most relevant measure of the relative efficiency of farms of different sizes. Maximum operator's income serves as an adequate criterion of both private and public policy action. The situation in India and similar countries is very different.

Faced with an imperative need to increase agricultural production, most underdeveloped countries find almost all production factors limiting, *except* labor.² From the public or aggregate social viewpoint, the marginal cost of labor approaches zero. In fact, in the judgment of many leaders it is negative—that is, there is a positive social value in employ-

ing additional labor, even worth sacrificing some production to accomplish. Prime Minister Nehru makes a telling point that "cottage industries," though inefficient, are justified in that they give larger proportions of the population a sense of participation in the developmental efforts of the country and hence a more widely spread personal identification with the success of these efforts. In any event, rural unemployment and underemployment being what they are—and with the certain prospect of even much greater pressure of population upon employment opportunities—labor is, from the social standpoint, essentially a non-cost element at any foreseeable levels of increased agricultural productivity. In direct contrast to the case in highly developed economies, therefore, any measure of relative efficiency of farms of different sizes must be in terms of returns to non-labor resources to be relevant to problems in India and similar countries. *Probably a simple measure of gross value productivity per acre, above variable capital costs, is as relevant to policy decisions under Indian conditions as is net operator-income under American conditions.*

If, for India and similar countries, the measure of agricultural efficiency relevant for public policy is simply gross value productivity per acre above variable capital costs, then how is this related to size of farm? Stated more simply, are the returns to non-labor resources higher on the larger or on the smaller farms?

² Much of this paper relates only to so-called "overpopulated" underdeveloped economies. Throughout the paper, India is used as an example of such an economy. There are, of course, several important countries which are extremely underdeveloped yet have extensive unexploited potential farming areas, to which the principal arguments of this paper would not apply. The land reform problem in these countries is, however, much more simple.

This is the question pertaining to the economics of farm size which is really relevant to land reform policy.

A re-look at American data from this point of view might yield some rather startling results. In a study made by the writer,³ although size of farm was, conventionally, highly related to operator-income, productivity per acre of land was inversely related to size of farm. Many other studies reveal the same thing. Even Dr. Warren's pioneer study of Tompkins County, New York, published in 1911, though making a strong case for larger farms as necessary to high operator income, nonetheless found value productivity per acre to be inversely related to size of farm.⁴

In India, crude observation does not suggest that the level of farming practices is higher on the larger than on the smaller farms. Even most of the very large state-owned farms in India, with their obvious "hidden subsidies," produce little if any more per acre than the small farms in the area. With the exception of the highly specialized case of some of the plantation crops, productivity per acre would appear to be about the same for all sizes of farms or perhaps to diminish as size of farm increases.

Thanks to the work of the Farm Management Research Centers in India some data are available to corroborate these observations. Data are available for samples of one hundred to two hundred farms per state in selected areas of West Bengal, Uttar Pradesh, Punjab, Orissa,

Andhra Pradesh, Bombay (2 districts) and Madras. The data cover three years in four cases, two years in three cases and one year in two cases. Because for each state a different size-range was used for computing the frequency distributions, it is impossible to set up a simple table directly from the state data. A composite tabulation, using four size-groups into which all the data could be fitted, shows the following relationships between size of farm and productivity per acre as measured in value of output.⁵

AVERAGE GROSS OUTPUT PER ACRE
BY SIZE OF FARM (IN RUPEES PER ACRE)

Size of farm (acres)	Gross Output per Acre (Rupees)
0— 4.9	240
5— 9.9	213
10—19.9	171
20 and over	103

The above table shows a very decided inverse relationship between the size of farm and value of output per acre. However, it has the defect, for analytical purposes, that some of this relationship is caused by the fact that the areas of lower productivity per acre tend to be characterized by larger farm units. To overcome this difficulty, the frequency distributions for individual states were recombined and classified into four groups: the smallest size-group of farms, the second smallest size-group, the second largest size-group and the largest size-group. This has the effect of holding differences between states constant in the analysis. Since the sample area studied within each state was chosen to be quite homogeneous, this classification enables us to

³ Erven J. Long and Kenneth H. Parsons, "How Family Labor Affects Wisconsin Farming," *Wisconsin Research Bulletin* 167, May 1950; also Erven J. Long, "Return to scale in family farming: Is the case over-stated?" *The Journal of Political Economy*, December 1949.

⁴ George F. Warren and K. C. Livermore, "An Agricultural Survey, Township of Ithaca, Tompkin County, New York," *Cornell Memoirs No. 295* (Ithaca, New York: Cornell University Press, 1911).

⁵ Data supplied by G. D. Agrawal, Production Economist, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India, from Farm Management Center Reports from the referenced States.

determine reasonably well the net effect of size of farm upon value of output per acre. (A somewhat more refined analysis could have been made by recourse to original data but the technique here employed is adequate to the purpose.)

Because of the relatively small sample for each individual state, the relationships revealed are somewhat erratic but a general inverse relationship between size of farm and value of output per acre

can be noted. These irregularities disappear when data from all nine states are combined, as shown in the last column of Table I. This column may be taken as a fair suggestion of the relationship between size of farm and gross value of output per acre in India. It clearly calls into question the supposition in much land reform discussion that large farms are more "efficient" than small farms.

TABLE I—RELATIONSHIP BETWEEN RELATIVE SIZE OF FARM AND RUPEE VALUE OF GROSS OUTPUT PER ACRE FROM SAMPLE AREAS OF EIGHT STATES: INDIA

	Madhya Pradesh	West Bengal	Uttar Pradesh	Punjab	Orissa *	Andhra Pradesh	Bombay	Madras	Average Eight States
Smallest Group	87	239	292	201	161 (89)	433	117	209	219
Second Smallest Group	88	217	267	186	141 (79)	352	82	171	188
Second Largest Group	84	229	227	173	150 (88)	369	51	75	170
Largest Group	93	169	232	143	126 (71)	380	53	75	159

* Figures in parenthesis refer to output per acre above variable capital costs. See text.

Additional evidence on the relationship between size of farm and productivity per acre has been obtained from a study of 225 farms in three villages of Bihar State, as shown in Table II. These data have the advantage that they relate separately to three villages within which there is great homogeneity with respect to soil characteristics and water resources. It can be seen that, in spite of the rather small number of cases for each village, there is a quite constant inverse relationship between size of farm and gross productivity per acre. The last column, showing the averages for the three villages, evens out such minor irregularities as appear for the individual villages.⁶

As indicated earlier, the measure of efficiency most relevant to land reform policies in India is value productivity per acre above variable capital cost. This

would be a somewhat better measure than gross value productivity per acre as used in the above tables as it minimizes distortions due to possible differences in amount of variable capital used by farms of different sizes. Investigation of this point reveals, however, that empirically gross value of productivity per acre is equally adequate under Indian conditions. Variable capital inputs, in the form of seeds, fertilizer, insecticides, etc., are so small as not to affect comparisons, even if there were some consistent bias in relation to farm size—which there appears

⁶ Data supplied by P. Ray, Principal, H. D. Jain College, Arrah, Bihar State, from a study to be submitted as a thesis to the London School of Economics. Analysis is being conducted under direction of the writer and M. B. Badenhop and supported by a fellowship grant from the Council of Economic and Cultural Affairs Inc., New York.

not to be. The same is true for investment in tillage and other equipment. Bullock power for farm operations is the largest item of variable capital expenditure. However, because of the tremendous numbers of such cattle in India and the social and religious sanctions requiring their maintenance, these can be considered in virtually the same fashion and for the same reasons as human labor—as a fixed cost input from the social standpoint. To the extent that

TABLE II—GROSS OUTPUT PER ACRE AS RELATED TO SIZE OF FARMS FOR 225 FARMS IN THREE VILLAGES, BIHAR STATE: 1955-56

Size of Farm (acres)	Village A 92 farms Rs	Village B 100 farms Rs	Village C 33 farms Rs	Average: Three Villages
0- 4.9	206	384	315	302
5- 9.9	193	337	306	279
10-14.9	178	329	308	272
15 and above ..	173	331	278	261

amount of feed consumed by bullocks is a function of the work they do, such feed is a variable capital input. There is little reason to believe that this is significantly related to size of farm. Value of output per acre above capital costs follows the same pattern as does gross value of output per acre as is shown in the case of Orissa State, where these figures are given in Table I in parentheses alongside the gross output figures. Hence, for our purposes, gross value of output per acre as used in the tables would appear to be from the public policy viewpoint an adequate measure of the relative "efficiency" of farms of various sizes.

IV.

It is now necessary for the writer to state some disclaimers. It is not his intention to claim that data displayed thus far in any way *prove* an inverse relation-

ship between size of farm and productivity per acre. They are cited merely to prove that the general presumption of a highly positive relationship which underlies most land reform discussions is extremely suspect. This presumption is equally evident in the arguments for cooperative farming and in the argument that little can be done to increase the agricultural productivity of a nation of very small farms. Though the data do not prove an inverse relationship between size-of-farm and productivity, nor perhaps even that the opposite may not be true, they certainly throw the burden of proof on the common presumption of a strongly positive relationship. This paper is, therefore, an earnest plea for more and better research on this relationship necessarily so central to all land reform proposals.

A primary limitation of the analysis thus far is that it has been cast in a purely "static" context.⁷ The real problems of land reform are those of dynamics. Stated simply, what may be the effects of size of farm upon the rate at which productivity may be increased? It is conceivable that even if size of farm were inversely related to productivity in the static sense, it might yet be positively related to the process of increasing productivity. This is a question upon which the data cited cannot throw direct light.

As a matter of fact, it is precisely in this context that the presumption of a positive relationship between size and productivity had its origin. What western agricultural adviser in India—or what western-educated Indian agriculturist—looking at expanses of Indian land chopped up into tiny holdings and, res-

⁷ A crime for which the author would never forgive himself. See, "Some Theoretical Issues in Economic Development," *Journal of Farm Economics*, December 1952, pp. 723-731.

orrecting in his mind's eye the image of Iowa's corn fields stretching endlessly toward the horizon, has not revelled in the thought of what he could do to increase productivity if he could but combine all this land into one large unit? The *modus operandi* he visualizes for the realization of this dream will depend upon his experiences, his biases and perhaps his political commitments. But, as John Dewey says: "Existence is existence; and facts about it are stubborn." And the stubborn fact in this case is that land will probably respond as well, or better, to the direct ministrations of human hands using simple tools as to huge machines designed to meet the requirements of a different situation. And whereas labor is, from a public point of view, cost-free, the machines are very costly indeed.

Although the data as analyzed are static, the relationships revealed are the end products of such dynamics as have existed in the society. Therefore, data from societies whose agriculture have had more dynamics might be even more relevant. It is for this reason that the writer suggested that an examination of (even) American data from this point of view would be informative. Even more useful, perhaps, would be examination of similar relationships in Japan. If data for such countries reveal a negative relationship between size-of-farm and gross value productivity per acre above variable capital costs as the end result of a highly dynamic agricultural development process, then indeed the presuppositions of most land reform discussions—and also of much technical assistance work—need intense re-examination. Again, this paper is a plea for this type of re-examination of American and other farm management data.

The agricultural productivity problem of underdeveloped economies is, at heart,

that of the allocation of capital. If the large farms are operationally nothing but agglomerations of small farms, the productivity of farm size is nil. If only managerial responsibilities are affected, the outcome is the net result of two forces working in opposite directions: on one side the presumed advantage of centralized and hence improved management decision-making, on the other side the paired forces of cost of overhead supervision and the reduction of individual incentives. Data cited above give no direct clue to the outcome of this contest. True "diseconomies of scale" could not have begun to operate on farms of the sizes referred to above. In these cases smaller farms produced more per acre than larger farms probably because they used their labor more effectively or used more of it per acre. Overhead costs of supervision and management could not have reached the increasing phase on the larger farms. But successful management of truly large-scale farms (of the cooperative farm or state farm type) is an extremely complex undertaking, much more so than management of comparable size industries.⁸ On very large farms great costs of supervision are encountered. True diseconomy of scale, due to overhead costs of supervision and management on such farms, takes a heavy efficiency toll. In private undertakings the incentive to gain directly from one's own effort serves as a powerful spur to work. In a shared-gain enterprise this incentive disappears and must be replaced by other incentives (such as appeals to patriotism) or by compulsions requiring heavy ex-

⁸ John M. Brewster, "The Machine Process in Industry and Agriculture," *Journal of Farm Economics*, February 1950; also, John C. Ellickson and John M. Brewster, "Technological Advance and the Structure of American Agriculture," *op. cit.*, November 1947.

penditure on overhead supervisory and enforcement staff.

But from the economic standpoint the greatest practical disadvantage from any kind of shift to large-scale farming would be that it would tie up in relatively unproductive uses capital which would otherwise be highly productive. This would be the very probable result of such a shift as its justification is that it makes possible the introduction of "modern technology." Indian agriculture is desperately starved for capital, to be invested in such uses as minor irrigation systems, soil building systems requiring better seeds, etc., and especially in chemical fertilizers. Small amounts of capital invested in such forms and properly mixed with large amounts of the superabundant labor could produce marvelous results. But capital invested in essentially labor-saving machinery, such as one tends to find on very large farms everywhere, would add little to total production.

Virtually all American agricultural economists, as well as specialists in other fields of agriculture who have been in India a couple of years or more, are impressed with the low level of husbandry practices on the great majority of Indian farms. Our commonly preconceived image of Indian agriculture as teeming with people squeezing every last bit of productivity out of almost hopelessly limited physical resources is inaccurate; it becomes quickly replaced by the ever-present sight of extremely poorly used land. Fields are often very weedy; planting is haphazard with respect to timing, spacing, depth and plant species combinations. Seed bed preparation is usually poor. Such soil and water-conserving practices as contour plowing and planting, terracing, etc., are very rare. Though virtually all the land is extremely deficient in nitrogen, very little use is made

on unirrigated lands of legumes in a fertility-building crop rotation system. In areas where water, rather than land, is the principal limiting factor, such water as is available is very inefficiently allocated, usually wastefully squandered on the over-irrigation of a few acres of high water requiring crops. These and other circumstances combine to result in yields ranging perhaps from fifty percent down to twenty percent or less of those which would be obtained from the same physical resources by ordinary "good farming." Small amounts of capital, mixed with large amounts of human effort, invested in overcoming these and similar shortcomings would far outweigh any improvements in productivity which might be achieved through land reform measures—except those which help assure that the farm operator benefits from, and hence has an incentive to bring about, these improvements.

From the standpoint of land reform policy the most important type of very-large-scale farm is the cooperative farm. Apart from the presumption of an advantage due to economy of size (a highly questionable presumption as we have seen) the principal advantage claimed for it is that it provides an effective channel for technological knowledge and mechanism for technological change.⁹

⁹ The most impressive case of these "successful" group-farms which I have seen are the so-called "paysannat" of the Belgian Congo. These huge undertakings with 20,000 or so families each are actually not cooperative farms but combination state-and-private farms. They combine in a unique way advantages of large-scale handling of certain key operations, such as plowing and spraying, with an almost unimpaired system of incentives to the individual family to do its work well. Individual farms are lined up in such a way that state-owned large machines can be used for certain key operations while, at the same time, each farmer's produce is sold individually and the family permitted to keep the money left after paying its share (prorated on an acreage basis) of these machinery operation costs. Thus, the farm family's income depends entirely

How effective it is in either capacity has yet to be determined. So-called "experiments" with a few such farms are of highly dubious value as any favorable results can be attributed to the mere fact of concentration of technical knowledge (and often other resources). In an agriculture operating at twenty-thirty percent its reasonable production capacity, such a concentration could be expected to produce highly favorable results almost regardless of the mechanism or channel used. Such a concentration would, of course, be completely impossible were such group farming introduced as a general agricultural policy.

Thus viewed, group farming might best be considered as an alternative to other "extension" techniques and in full view of long-range economic consequences. This recognition might lead to a more energetic quest for more effective extension techniques, applicable under an owner-operatorship mode of farm organization, which should be able to accomplish even more than group farming

upon its own efforts. Undoubtedly, the unquestionable increases in yields which resulted from the establishment of these "paysannat" were actually due to the rapid introduction of improved technology on these farms and not, apparently, to any inherent advantages in large scale operations as such. One could say with a good deal of accuracy that the remarkable success of these farms is attributable to the fact that this proved to be a highly effective way to do "extension" work. Also, and this is extremely relevant, these farms are in a labor-scarce area. Most of their advantages (such as better insect control) could be achieved in India by hand labor, whereas in the Belgian Congo labor is too scarce for such use. And the problem lying ahead for the paysannat, when existing populations on the farms press too tightly against the rather rigidly set land allotments, would be aggravated manifold in a country like India with an approximately 1500% greater agrarian population density. The central point is that in Central Africa as in India tremendous productivity increases can be achieved by any device which rapidly upgrades the level of farming practices. The question is whether this device is any better than a good extension program to individual owner-operators and, if so, what are its likely long-run economic consequences.

on the productivity front without the serious long-range economic inefficiency implications. It is the judgment of this writer that the potentials of a virile research-extension organization under owner-operator conditions has by no means been tested in India. At present, agricultural research is still too remote from the every day problems of farmers; and agricultural extension work is too new, too sporadic and especially too loosely connected with research to accomplish much. But the potentialities are tremendous as can be observed here and there where genuinely science-based agricultural extension programs are being carried out.¹⁰ As Rainer Schickele states:

"The challenge really is: what can be done to accelerate the rate of adoption of better techniques within a predominantly family-type agrarian structure? . . . I would suggest that if the same people, who could be made available as the managers and technical officers under a system of cooperative farms, would be made available to the same physical area as county agents, along with whatever financial help would be channeled through the cooperatives, the rate of adoption of better production techniques under the present farm-size patterns would not lag behind by many years. Beyond that transitional period the harnessing of the individual initiatives and incentives, and the preservation of the craftsmanships attitude of farmers toward their job, in contrast to an employer-employee relationship, could be expected to surpass, in production performance, the cooperative alternative."¹¹

There is one final consideration. This is that massive land reform may be a kind

¹⁰ One factor needing serious consideration—but lying outside the scope of this paper—is that decision-making in a village society is a different process from that in countries characterized by family-farm agriculture. Intense study of the decision-making process in village societies is needed as a prerequisite to the designing of effective extension procedures.

¹¹ From a letter to the author in review of an earlier draft of this paper.

of shock treatment which may cause rural people, in their new found uncertainty, to be more receptive to new knowledge. A somnolent agriculture, heavily encrusted with centuries-old customary practices, may be jarred loose by the simple *fact* of radical reorganization. But this is basically the cynic's view. Peasant people, at least Indian cultivators, are extremely responsive to suggestions which will really improve their economic lot. As one Indian government worker put it to me: "The cultivator is far more ready to receive good advice than we are to give it to him; he is much more prepared to follow than we are to lead."

In summation, therefore, we are brought to the conclusion that much careful research is needed on the relations of farm size to productivity in both its static and dynamic dimensions and in terms truly relevant to underdeveloped, over-populated societies. Research is also needed into the most effective means of introducing technological changes which will capitalize on abundant labor. To the writer the weight of the evidence thus far is in favor of an effective research-extension program, supplemented by a set of government or cooperative services, in support of a flexible system of small scale, owner-operated farms as the proper goal of land reform policy.

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PROBLEMS IN FOREIGN POLICY¹

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Agency for International Development

IN ASSIGNING me this topic, the President of the American Farm Economics Association admonished that the paper should deal with substantive issues rather than definitions—as we already know what the concept of a family farm denotes. This is welcome, as the substantive issue is adequate to absorb all the time available to us today. I assume, however, that this does not preclude my defining the focus of my discussion.

For, firstly, I wish to make clear that I shall focus not on the family farm as such, but on “the family-farm system” as a mode of organization of agriculture. No one would argue, I’m sure, for a totally monolithic mode of agricultural organization for any country. Certainly, the United States has never had—nor pursued as a policy objective—a completely homogeneous system of family farms. And yet I presume it is agreed that we *have* had—and *have* pursued as a policy objective—a “family-farm system” of agricultural organization. It is the family-farm *system* of socio-economic organization of agriculture, rather than the mere internal economics of individual farms, which is relevant to U. S. foreign, as well as domestic, policy. Under a system most completely devoted to family-farm organization, there may be a place for State farms (for experimental work or for seed stock production) for cooperative farms (for expression of particular religious motivations) for “factories in the field” or large plantations (for particular crops with unusual production characteristics) and for other deviations from the norm. Some of these forms may be indispensable to the viability of the family-farm system (e.g., the experimental farm) and others at least compatible with it. To be relevant to U. S. policy, analysis must, therefore, focus on the implications of alternative *systems* of economic and social organization of a country’s agriculture, not merely on individual farms. Analysis must also differentiate the substance from the mere form of the issue; in Burma, for example, Government has felt it necessary technically to nationalize land ownership—giving the essentials of ownership rights to the occupants—in order to preserve the “family farm system”; as otherwise land ownership would all revert to the money lenders.

Secondly, analysis must be directed toward a broader spectrum of considerations than mere productivity or economic efficiency, important as these considerations must be in any analysis. Indeed, the interest of the

¹Views expressed are those of the author and not necessarily those of the Agency for International Development.

United States is probably more directly involved in other aspects than in the efficiency or productivity implications of alternative modes of social and economic organization. I should like to elaborate this point because I feel it to be at the very heart of the topic under discussion.

Economic Development

It is necessary to recognize first that economic development, per se, is indifferent as to outcome from the standpoint of social and political implications. Economic development is an objective of communistic governments, as well as of free world countries. And they use many of the same means as we to achieve it. Also, economic development can take forms which merely aggravate current causes of political tension; or it may prove to be the catalyst of explosion with results very inimical to the interests of the free world. Economic development is undoubtedly a necessary condition for realization of our fundamental values and objectives of policy; but it is by no means a sufficient condition. Our national objectives are served only to the extent that economic development brings about or strengthens proper institutional structures within countries—structures which constructively orient the countries toward peace and amicability in international relations rather than toward hostility and conflict.

Furthermore, economic underdevelopment is itself largely an institutional phenomenon. In underdeveloped economies, capital is not developed because institutions for capital development are inadequate; productivity capacities of human beings do not develop because adequate institutions for developing those capacities do not exist; efficiency of economic organization through specialization does not develop because adequate financing and marketing institutions do not exist. In short, economic underdevelopment is ordinarily the consequence of institutional underdevelopment rather than of lack of resources. We need to give serious consideration to the fact that many of the most underdeveloped countries are among the richest in resources per capita (e.g., the Congo); that most underdeveloped countries have historically been exporters of capital resources; that Cuba was among the better fed and higher income Latin American countries when the present government took over.

Two Dimensions

There are two distinct dimensions to the question of the role of the "family farm system" as a mode of economic and social organization of the agricultural sector of an underdeveloped country. The first is the economic dimension—its implications for present productivity and for future economic development. The second is the social-political dimension—its implications for the type of social and political development the country may take.

As an economist, I have a natural bias toward the former; but as a citizen who has observed—and participated slightly in—the developmental efforts of some of the countries, I must concede the definite and probably paramount importance of the latter. It is my contention that the family farm system of organization of agriculture does have very profound implications of both types, and that analysis of the assigned topic requires attention to both. The breadth of the topic, of course, implies that we can merely touch on the broad outlines of these two dimensions of the problem.

The economic dimension cannot be analyzed in terms of internal economics of individual farms, but only in terms of implications of the total system of organization. However, one general observation may be instructive. Contrary to popular belief—and to the interpretation often given to farm management research data—there is no strong indication that given amounts of land, labor, water, capital, managerial skills, and other resources are more efficient, under most conditions, when combined in larger than what are normally thought of as “family” units. Much confusion of this issue results from the obvious fact that owners of larger farms earn more money than owners of smaller farms. This is because they command more resources. A man with a million dollars invested at 2 percent earns more than another with a thousand dollars invested at 8 percent. But that doesn’t mean that he uses his money as efficiently. As I have pointed out elsewhere, using Indian data, efficiency in the use of given resources is, if anything, inversely related to the size of farm. These same relationships are borne out in data I have observed from several other countries, including Germany, Chile, Formosa, and Japan. Obviously, the quantum of resources per man should be as high as possible; but this is not achieved by the mere aggregation of resources into larger conglomerates.²

When one lifts the level of analysis from the individual farm to that of the economic implications of a system of organization of agriculture, he must look to the question of alternatives. As I see it, there are about four alternative “systems”—and of course they may be combined in all manner of ways. One alternative is state farming—that is, the total administration of agriculture by government. Under this system, in its pure form, managerial and operational decisions are made by government supervisors for the people who work the land. The people who work the land are government employees. Distribution of returns is by administrative prerogative and according to political criteria. A second system is “collective farming”—in which the resources of individual families are pooled,

²Long, Erven J., “The Economic Basis of Land Reform in Underdeveloped Economies,” *Land Econ.*, May 1961, pp. 113-123.

and managerial decision making is vested in selected members of the group. Distribution of returns is indicated by the prevailing ethical principles of the group, presumably based more on the criterion of need than of contribution, but not necessarily so. A third "system" would be that of "corporate farming" in which resources are pooled in some fashion, management is employed on behalf of the group, and distribution is in terms of owned capital resources and/or labor contribution as determined in the wage market. The fourth alternative is harder to name, but easier to find, because it is the form prevailing in most free underdeveloped countries now striving for "land reform." This system is often, though somewhat inaccurately, referred to as "feudalism." The system takes many forms, but is characterized by the fact that a relatively small number of people, through ownership either of the land itself or of rent-collecting rights, control the economic alternatives of the people who work the land. Through this control—which normally is fortified by their control of government also—economic power of the oligarchy is utilized to exact a distributive share from agriculture which has no necessary relationship to either contribution or need. We may perhaps best look at these systems in the reverse order from that in which they are listed above.

The "feudalistic" system of agricultural organization requires a closed economic system for its survival. Once economic opportunities develop outside the feudal structure for large numbers of the workers, and they become knowledgeable about these opportunities, the system crumbles. In our own history, opening the frontier for settlement, combined with the expanding maritime, commercial, and labor markets, rendered the maintenance of control over agricultural workers' alternatives impossible, almost from the beginning. So in those areas most suited to large-scale production units, recourse was made to slavery, built on direct control of people as property rather than indirect control through control of their alternatives, as a means of carrying forward basic feudalistic patterns in the "inhospitable" environment of an open economy. The awful difficulties our country experienced a century ago in resolving this issue should give us some insight into the difficulty with which other countries are confronted in resolving their present "land reform" problems, and should make us very respectful indeed of those countries which have resolved the problem swiftly and with a minimum of difficulty.

Because non-farm economic development does proceed at some pace in most underdeveloped countries, their economies are not entirely closed. But many techniques are available—other than recourse to slavery—for keeping control over alternatives of workers on the land. The secret is to keep the economy essentially "divided" into two sectors, the farm and the non-farm. As I see it, this is done through three principal

mechanisms. First, educational activities, both formal and informal, are kept at a low level among the farm people, so that they remain ignorant of, and unqualified for, participation in opportunities outside agriculture. Second, communication between rural and urban sectors is kept ineffective. This is not only a matter of lack of roads and telephones, but also of poverty and of cultural gaps. Third, such economic development as does take place outside agriculture is kept below that necessary to drain off increments to agricultural population, so that even though some or even many may leave farming, enough remain with no other alternatives to permit the system to prevail. To these must be added the fact that, since opportunities do exist in agriculture also, the preservation of this system of agricultural organization requires that these opportunities also be disciplined. This is done through the rather simple, and obviously attractive, device of arranging for the benefits of any undue enterprise or creativity by the individual tenant or worker to go in main part to the landowner or rent collector. As an old Eastern proverb has it: "A smile on the face of a peasant speaks of the stupidity of his landlord."

In highly developed economies the "corporate farming" organization of agriculture may have little or no correspondence with the "feudalistic" system just outlined. But in an underdeveloped country, the corporate land-and-capital owners often fit the same pattern as, and in fact become an integral part of, the feudal system. The employer-employee relationship characterizing industrial enterprise in advanced economies rarely comes into being in agrarian sectors of underdeveloped economies, and in its place is to be found the master-servant relationship of the feudal system.³ This is probably the reason why tenants and farm laborers in underdeveloped countries desire so strongly to "own their own land." They instinctively fear that any arrangement short of that will give them only the old structure under a new name, and perhaps under different and not necessarily better masters.

No deep analysis is needed to show that systems such as outlined above are apt to work against economic development. For one thing, perpetuation of the system itself requires that economic development be kept at manageable rates. Also, managerial functions are concentrated heavily in the hands of relatively few persons, and directed toward maintaining stable relationships, rather than maximum efficiency. This very fact creates one of the more important problems when such a system does give way. The type of agriculture followed under the system is not that which

³As Dr. Raymond Penn points out: "To put it bluntly, U.S. industry cannot operate in a feudal country without accepting the rules of feudalism and thus sharing the villain's role for those who want to strengthen the economic and legal position of the landless and jobbers." "Public Interest in Private Property (Land)," *Land Econ.*, May 1962, p. 101.)

will enable the farmers who newly acquire the land to make efficient use of resources. Therefore, new agricultural enterprises have to be developed for which neither the new landowners nor their former masters are prepared by experience. This problem is not as characteristic under the rent-collection systems of Asia as under the large land ownership systems of Latin America, which explains in part the relative ease of the transition to owner operatorship "family-farming" in such countries as Japan, Taiwan, and India.

It is my judgment that, by and large, it is this necessity of shifting to new types of agriculture, plus the disruption of some social overhead services, rather than the loss of management skills formerly supplied by landlords, which creates most of the problems of a production nature when land reform is introduced. For it is extremely easy to overestimate the amount and quality of management provided by large-scale landowners (or rent-collectors) when judged against production efficiency criteria.

Collective farming, or "cooperative farming," as a system of organization of a country's agriculture, is of quite a different character from the forms discussed earlier. Often it roots in deep ethical or religious concepts concerning the natural equality of man. The fact that it has frequently been subverted in communistic societies into a disguised form of state farming does not in itself condemn it for use under free societies. In the United States it was introduced by the Pilgrims. But it failed, for economic rather than ideological reasons. Within 3 years, the individual farm families were allocated certain portions of land for their own exclusive use, and within a few more years arrangements were made for individual farmers to buy their land from the merchant owners in London—so that within a decade the colony had shifted from cooperative farming to owner-operatorship, family farming. Many similar cooperative schemes were followed by other groups, largely under religious stimulus.

Such efforts as have been made to establish collective-farming systems of organization of agriculture do not testify to the effectiveness of this approach. An instructive case in our country is the Amana settlement in Iowa.⁴ China's present agony and the frustration regarding agricultural production being experienced in the Soviet Union and other Bloc countries indicate the handicap such countries suffer as a result of their ideological commitment to collectivization. As Dr. Kenneth Parsons says: "It is fortunate for us that owner-operatorship of farms is incompatible with communist ideology."

The experience of Yugoslavia is most instructive. The rapid socialization of agriculture was a fundamental tenet of Yugoslav ideology. To this

⁴ Yambura and Bodine, *A Change and a Parting, My Story of Amana*, Iowa State Univ. Press, 1960.

end, great efforts were expanded to reorganize the traditional "family farm" agriculture of Yugoslavia into collective farms, known as "Peasant Workers' Cooperatives," up until about 1951 and 1952. By this time, these collective farms covered 2.29 million hectares, about 15 percent of the total agricultural area of the country. But troubles were setting in. As stated in a report by an Indian study group: "The creation of larger units did not, by itself, improve efficiency. The system of uniform rates of wages for all workers was a great disincentive. Working discipline was low; most of the members were more concerned with production on their small homestead plots. . . . There were repeated desertions. The attachment of the Yugoslav farmers to land was great and this was not recognized in the ideological fervour. . . . As a consequence of all these, production actually fell in most societies."⁵

To quote a most eminent Yugoslavian agricultural economist, Dr. Rudolph Bicanic, University of Zagreb, in commenting upon the "Soviet System" of agriculture in Eastern Europe generally, and in Yugoslavia in particular: "The result was that the anticipated economies of scale were offset by other factors such as lack of personal initiative and efficiency in work, lack of flexibility on the part of the centralized management to adjust means of production to their full use. As this administrative change lacked material economic basis, collectivization was carried by coercion and arbitrary measures, and the whole system became degressive and inefficient and had to be changed."⁶ In the words of still another prominent Yugoslav: "Nobody thinks any longer of collectivization in Yugoslavia."⁷

After 1952, a new policy was evolved, establishing essentially a system of family farms, producing for free markets and supported by marketing supply, and service cooperatives. Labor performed on land remaining under "cooperative" management was hired, largely on a piece-work basis. As a consequence, the number of Peasant Workers' Cooperatives dropped to 370 in 1959 from 7,000 in 1952, and the area under cooperative farming decreased to 207,000 hectares in 1955 from 2.29 million hectares in 1952.

All three major systems of agricultural organization listed above as alternatives to family farming suffer from three major handicaps to productive efficiency.

One handicap is the difficulty of providing incentives, under systems

⁵ *Report of the Study Team on the Working of the Cooperative Movement in Yugoslavia and Israel*, Government of India, Ministry of Community Development and Cooperation, April 9, 1960, p. 25.

⁶ "Lack of Institutional Flexibility in Agriculture," *Proceedings of the 10th International Conference of Agricultural Economists*, Oxford Univ. Press, 1960, p. 157-178.

⁷ Komar, S. *The State of Agriculture and Cooperation and the Perspective for Their Development*, Federated Peoples' Assembly, Belgrade, 1957.

where rewards for special efforts go to other than those who make the efforts. This applies to capital development as well as to direct production. Farm people will not ordinarily forego consumption expenditures to make capital improvements if someone else can either take over the farm or raise the rent to use up all the increased returns. The principal source of capital development in agriculture in underdeveloped economies is the use of labor to make such production-increasing improvements on the land as land clearing, irrigation facilities, or soil conservation structures. The play of incentives in stimulating such "do-it-yourself" capital-developing activities under a system of individually owned family farms is one of the most difficult factors to duplicate under alternative systems of farm organization.⁹ Other forms of persuasions are used under other systems, to be sure—using both the carrot and the stick—but they are usually costly and difficult to administer and tend to become more ineffective with the passage of time. It is cheaper and much more effective, in the end, to build incentives into the system of agricultural organization than to enforce compliance.

Another economic handicap of alternative systems is the high cost and ineffectiveness of centralized decision-making. Successful farming requires a constant process of judgment-making, in which sound scientific and economic principles must be blended with particular facts of time and place. Weather is so capricious, soil and water resources so unevenly distributed, and plant and animal diseases so unpredictable, that decisions must be made close to the ground and promptly. Thus, to be effective, centralized management requires a tremendous overhead of decision-makers working at the elbows, as it were, of the farm workers. It is much cheaper, in the end, to build the decision-making competence into the worker and thereby eliminate this overhead.

The third, and in the long run the most important economic limitation of systems of farm organization other than a "family farm" system, is their poor adaptability to development of managerial and other competencies broadly throughout rural society. As intimated earlier, feudalistic, and closely related, systems of farm organization virtually depend for their survival upon repression of development of competencies among the masses of rural people. This is not necessarily true, however, of state farming and collective farming systems. But the family farm system specifically adapts itself to the development of managerial capacities on a broad base. Development of managerial skills on the part of a few central managers under alternative systems may be easier of rapid achievement;

⁹ This point is elaborated in my paper, "Land Policies and Programs in Relation to Economic Development," in *Latin American USOM's Seminar on Agrarian Reform, Feb. 21-24, Santiago, Chile* (processed), pp. 28-32.

but it does not provide occasion for development of the capacities for intelligent action inherent in people of all levels of rural society. Family-farming will not, in itself, assure this development—as attested by our own “tobacco roads.” But, by forcing small operators to make management decisions and to live with the consequences of these decisions, it does provide a more suitable setting for the development of such human capacities throughout rural society than can be expected under those alternative systems, where only a few are expected to join their intelligence to their physical energies in the common purpose of earning a living. In the long run, this is probably the most important handicap of other farming systems, and is probably the key to the backwardness of feudalistic agricultural societies—and to the difficulties encountered in modern attempts at national collectivization.

Conversely, in the short run, the very fact of centralization of management often makes possible more rapid introduction of technological improvements. This creates a most serious obstacle to objective “experimentation” with alternative systems. But built-in rigidities, plus the handicaps listed previously, seem in experience to wipe out these short-run advantages more rapidly than I, at least, should have judged from purely *a priori* considerations.

I must conclude on a brief comment on what I earlier stated to be the most important aspect of the role of the family farm system in underdeveloped economies—its implications for social and political development. The building of institutional structures within underdeveloped countries which will work for, rather than against, evolution of free societies oriented toward peace and democracy is, of course, at the heart of our national policy. Some alternative systems serve to perpetuate disparities and incomes, thus keeping fertile the ground for hostile political development. Other systems play into the purposes and processes of totalitarian government—and are instituted by such governments, even at great costs in productivity, for that very purpose.

At perhaps its most fundamental level, from the political standpoint, the issue of alternative modes of agricultural organization turns on the nature of the relationship between the masses of rural people and government. For a family-farm system is not just a national landscape broken up into relatively small units. It is a system of relationships between rural people and government, a system of institutions dedicated to strengthening the family farm as a mode of organization. It is fundamentally predicated upon a *service* relationship between government and people—research service, educational (extension) service, credit service, marketing service, conservation service, price-supporting service, etc. It is a system—and represents an entire structure of concepts—in which the farm families are

the generators of agricultural policy—not the end—or bottom—point of an administrative system. The greatest political danger in an agrarian economy derives from a lack of sense of identification of rural people with government—a “lack of integration,” to use Myrdal’s⁹ term. When the majority of rural people think of government as simply a tax or rent collecting machine, they can easily be led to overthrow it. This is especially true if they have no property—and little else—to lose in the process.

The establishment of a family-farm system of organization of agriculture inverts traditional relationships between farmers and government. It is not easy to achieve. Transition from the “three R’s” of Colonial Administration—Rule, Revenue, and Reprimand—to Service requires tremendous adjustments in machinery of government and attitudes of personnel—much more difficult than the transition from one type of agricultural system to another which, though vastly different in superficial appearance, is built on the same relationship between the governing and the governed. But it is the heart of the process by which free societies are achieved, and hence of U. S. policy interest.

⁹Myrdal, Gunnar, *An International Economy, Problems and Prospects*, N.Y., 1956.