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# THE FUTURE OF AGRICULTURE

*Technology, Policies  
and Adjustment*

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## SPECIAL GROUP K

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### *Institutions as Aids to Development*

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INSTITUTIONS are man-made rules and arrangements guiding the behavior of people with respect to each other, and to their own and others' belongings, possessions and property. Although they may serve either as aids or obstacles to development, they do provide the unifying bonds which hold a society together, give it a unique character, and assure a degree of security with respect to accepted procedures of human interaction and response.

Institutions consist of rules defining for individuals their rights and privileges, responsibilities and obligations, as well as their exposure to the protected rights and activities of others. Commons defined institutions as 'collective action in restraint, liberation, and expansion of individual action'.<sup>1</sup> In an earlier work, Commons outlined his conception and the importance of working rules. A working rule '... tells what the individuals *must* or *must not* do (compulsion or duty), what they *may* do without interference from other individuals (permission or liberty), what they *can* do with the aid of the collective power (capacity or right), and what they *cannot* expect the collective power to do on their behalf (incapacity or exposure). In short, the working rules of associations and governments, when looked at from the private standpoint of the individual, are the source of his rights, duties and liberties, as well as his exposures to the protected liberties of other individuals.'<sup>2</sup>

Individual freedom of choice is made possible by the collective organization which defines this freedom and secures it for the individual against the adverse action of others. '*The slave becomes a free man, not in virtue of anything new put into him, but in consequence of a set of restraints imposed upon others.*' The difference between a free man and a slave is that the free man has security in the knowledge that the forces of public action will be used to limit the activities of those who would do him harm or use him against his will for their purposes.'<sup>3</sup>

\* Without attributing any responsibility to them, I gratefully acknowledge the comments on an earlier draft by my colleagues Daniel Bromley, Don Kanel, David King, Kenneth Parsons and William Thiesenhusen.

Institutionalized rules guiding action and behaviour operate at many different levels. In the realm of politics and public policy dealing with issues of agricultural development, it is useful to think of these rules as part of a hierarchical structure. In light of persisting problems and conflicts (in this case in the agricultural sector), there is a tendency for policy-makers to respond in the first instance with a modification of existing programs (which define the bounds within which individuals and firms are free to choose alternative courses of action in carrying out their plans). If the problems do not yield, a re-evaluation of policy may follow (policies in force at any given time define the limits within which programs are free to be altered). The final search for solutions may involve a re-evaluation and a change in the philosophical-ideological underpinnings of the system itself (which define the limits of permissible policy action). Changes in programs, policies and philosophy represent levels of increasing complexity with respect to institutional modifications.

Three broad criteria may be suggested for approaching the question implicit in the title of this paper, 'Institutions as Aids to Development'.

1. Economic growth is a requirement of development,<sup>4</sup> and institutions must be designed to support the processes necessary for achieving such growth: the introduction of technology, the incorporation of capital, production specialization and exchange, factor mobility, etc. And traditional institutions frequently are not supportive of these processes. As Long has pointed out: '... economic underdevelopment is itself largely a consequence of institutional underdevelopment' and '... social, economic, and political institutions developed through an ageless past to achieve accommodation to an environment are ill-equipped to serve as vehicles of controlled and creative transformation of the environment to serve human ends'.<sup>5</sup>

2. Capital investments, production specialization, the use of credit and the introduction of new technology require a degree of stability, order and security of expectations regarding the future. But such order cannot simply be imposed by force. At least in the longer run, the mass of people must have a deep confidence in and loyalty to a system, based on the system's demonstrated ability to provide the required new opportunities for people to improve their economic condition and that of their children. This requires some measure of equality in order to elicit their voluntary participation and the commitment of their energies.

3. Finally, institutions which serve to provide the security necessary for supporting the processes of economic growth and development must be consistent among themselves to form an integrated, cohesive system.<sup>6</sup>

Most components of an institutional system are not questioned at any given time; they are accepted and taken for granted. Only certain rules or the institutional arrangements in particular areas may be questioned because of felt needs or problems whose solution is judged to require changes in the underlying rules. In the early stages of agricultural development, the institutional arrangements most frequently called into

question are those of land tenure. In the development process, the close relation of the tenure system to the social structure generates stresses and conflicts.<sup>7</sup>

A fundamental change in the land tenure institutions involves more than a minor modification in existing programs. A land tenure system cannot be designed on the grounds of economic efficiency and productivity alone. Always involved are the larger questions of social structure, political philosophy, and ideology and the intricate inter-relations with other institutional structures. In the agricultural sector alone these include, among others, the institutions governing factor and product markets, research and education, credit and local organizations and governments.<sup>8</sup>

An interesting question concerns the manner in which institutions are changed and the way in which new institutional systems evolve over time. What are the pressures which create tensions sufficient to undertake this complex task? There seems to be little doubt but that the introduction of new technology (in production, transportation, communication, etc.) is a major element in this process.<sup>9</sup> This was one of the key insights of Marx—to see the close connection between technology and production patterns on the one hand and the institutional systems associated with them on the other. Another major factor, of course, is rapid population growth and the pressure of population on resources (to some degree also a function of technological change).

If technology and/or other changes introduce pressures after which institutions are adjusted and adapted to the new circumstances, does such adaptation occur more or less automatically? Or is there a need for objective analysis and deliberate policy efforts to achieve the results desired? My own view is an affirmative reply to the latter question. But there are other views.

T. W. Schultz has said that 'When agriculture acquires a growth momentum, as it recently has in many parts of Asia . . . the dynamics of that growth will induce farmers . . . to demand institutional adjustment. They will demand a larger supply of credit, with stress on its timeliness and terms, and they will organize cooperatives should these be necessary for this purpose. They will demand more flexibility in tenancy contracts. They will join with neighbors to acquire tube wells and to undertake minor investments to improve the supply of water. Both tenants and landowners will also use whatever political influence they have to induce the government to provide more and better large-scale irrigation and drainage facilities.'<sup>10</sup>

Hayami and Ruttan accept and build upon this formulation by Schultz in the construction of their 'Induced Development Model'.<sup>11</sup> Their model attempts to explain not only how technology is induced endogenously (within a system), but how this leads to further inducement for farmers and others to make the necessary changes in the relevant institutions.

The inducement to generate internally the appropriate technology rests on a set of assumptions (of conditions to be fulfilled) of a competitive

system (factor mobility and pricing in accordance with true scarcity costs within the economy), scientists who have an accurate view of the factor endowments and proportions existing within the society, and close communication between scientists and practicing farmers. The inducement to change institutions in response to the opportunities created by the new technology rests on similar assumptions: an assemblage of atomistic actors in both the political and economic realm—something approaching universal egalitarianism.

Leaving aside the suggestion inherent in these formulations that this process can occur with relative ease and even more or less automatically, a number of issues which are at the heart of the problem of institutional change and innovation are not addressed. The institutional changes discussed by Schultz, as well as by Hayami and Ruttan, deal primarily with those (as suggested earlier under criterion 1) required to support the processes of economic growth. But there is no mention of (criterion 2) those required to win the confidence and loyalty of the large mass of people, to elicit their voluntary participation and commitment, etc. Nor is there any recognition that the institutions referred to are part and parcel of a larger order and that a certain consistency must be maintained.

The positions stated (by Schultz, and by Hayami and Ruttan) assume that institutions are changed when the expected gains are greater than the expected costs. 'Our view . . . reduces to the hypothesis that institutional innovations occur because it appears profitable for individuals or groups in society to undertake the costs'.<sup>12</sup> But the question is: 'profitable for whom?' Obviously those individuals and groups who are firmly attached to the growth process will seek changes to strengthen further their favored position. But what about the excluded masses who have only meager and insecure opportunities within the present system? Is it reasonable to assume that institutional changes demanded by the former will result in major improvements in the opportunities available to the latter? This hypothesis has little explanatory value for the experiences of institutional transformation in the agricultural sectors of countries such as the Soviet Union, China, Egypt, Chile or most other countries where basic institutional reforms have been carried out. These reforms were deliberate changes based not on a benefit/cost or efficiency criterion, but on a fundamental change in the philosophical-ideological underpinnings of the system.

Two broad classes of institutional structures in the agricultural sector can be defined. Many countries today are faced with one or the other of these two types of situation.

1. Those situations in which the existing institutions do not support the requirements of economic growth.<sup>13</sup> For a number of reasons, which may be rooted in traditional culture and reflected in the way economic activity is organized and how rights to the use of land are defined and distributed, it is difficult to provide the security and incentives needed for increased investments in the agricultural sector and for the introduction of new

production techniques.

2. Those situations in which the existing institutions support the requirements of economic growth, but in ways which intensify and exacerbate the inequalities inherent in the present system, making a relatively small group wealthy and leaving the mass of people behind in abject poverty.

Both situations require institutional modification and innovation. In the first case, changes need to be made so that institutional arrangements are consistent with the requirements of economic growth. But caution needs to be exercised so that the system will also provide for an equitable distribution and the ability to generate sufficient employment opportunities for a growing population (i.e., that changes do not transform the system so that it resembles that of situation 2). This is, I believe, the underlying rationale for the policies being pursued by Tanzania and some other African countries. In the second case, changes need to focus on a more equitable sharing of the employment opportunities and the fruits of increasing output without, however, destroying the incentives necessary for achieving rapid economic growth (i.e., that changes do not transform the system so that it resembles that of situation 1). There is no general formula which will fit all circumstances, and nations need to maintain an open and experimental attitude on these questions. But objective research and analysis must be vigorously pursued and can be of great assistance in this difficult task.

With respect to institutional changes involving certain program rules (such as reducing private risk through insurance, reducing the individual's opportunity cost of capital through subsidized credit, reducing the price of factors through subsidized inputs, etc.) benefit/cost analysis may be a most useful technique for evaluating such changes. Even certain new directions in policy can be analyzed in this manner, especially if the changes are such that they do not involve fundamental shifts in resource ownership (and thereby the income distribution structure). But for more fundamental policy changes (i.e., those directed at redistribution from one group in society to another) and changes in the guiding principles within which policies are formulated (usually the case in land tenure reforms), benefit/cost analysis is ordinarily insufficient. Theoretically, if all social costs and benefits could be included, and long-run as well as short-run consequences could be taken into account, this technique would be appropriate. But this is impossible given our present state of knowledge and data availabilities. Thus, analysis of such basic institutional changes must proceed at a different level. Major emphasis needs to be given to an elaboration of the new system, the productivity and employment consequences of resource distribution, and the needed adjustments in the related functions of marketing, credit, research and extension. The most difficult task of analysis is to present a reasonable plan for the reconstruction of a new system that will advance broad development objectives more rapidly than the existing structure.

These institutional adjustments are never easy, simple or automatic. Without a concerted effort (both analytically and politically) at institutional reconstruction, there is little likelihood that a system resulting from adaptations to pressures from the economically powerful in the society will achieve development. Even the gains realized in technical agriculture, especially under conditions of rapid population growth, may be nullified without such reconstruction.<sup>14</sup>

## REFERENCES

1. Commons, John R. (1959) *Institutional economics*, Vol. I, p. 73 (Madison: University of Wisconsin Press; originally published by Macmillan Co. in 1934).
2. Commons, John R. (1957) *Legal foundations of capitalism*, p. 6 (Madison: University of Wisconsin Press; originally published by Macmillan Co. in 1924).
3. Long, Erven J. (1953) 'Freedom and security as policy objectives', *Journal of Farm Economics*, Vol. XXXV, No. 3, pp. 318–19.
4. But development is more than economic growth. Development requires expanding economic opportunities and the human capacities needed to exploit them in order to achieve a general reduction of mass poverty, unemployment, and inequality. It also requires realignments in political power, and must include human development and concerted, deliberate public policy efforts for redistributing the gains and losses (the new rights, duties, liberties and exposures) inherent in economic growth. See my 'Needed Redirections in Economic Analysis for Agricultural Development Policy', *American Journal of Agricultural Economics*, Vol. 53 (February 1971), pp. 8–16.
5. Long, Erven J. (1964) 'Institutional factors limiting progress in the less developed countries', in *Agricultural Sciences for the Developing Nations*. Albert H. Moseman (ed.), Publication 76, American Association for the Advancement of Science. Washington, D.C.
6. '... there comes a moment in the agricultural development of any country, and this is quite early in the process, when the institutional system of a country must be comprehended as a whole. For economic policies, this is certainly the system of state and economy, but the social systems of family, community, clan, voluntary association, education organization, etc., are never unimportant.' Parsons, Kenneth H. (1966) 'Institutional aspects of agricultural development policy', *Journal of Farm Economics*, Vol. 48, No. 5, pp. 1185–94.
7. Industrial development requires the establishment of a new institutional system consistent with this expanding sector, but agricultural development must deal with an old, pre-existing institutional system. This pre-existing system must be modified and restructured since it was designed to serve objectives quite different than those of economic growth and development.
8. Blase, Melvin G. (ed.) (1971) *Institutions in agricultural development* (Ames: Iowa State University Press).
9. 'The underlying shift in labor and tenure arrangements is influenced by the rapidity of technological change. Traditional systems are adaptations to relatively slow rates of technological change. This does not mean that they are simple or completely static. They are usually very complex systems that accommodate a diversity of occurrences of change, luck and misfortune.' Kanel, Don (1971) 'Land tenure reform as a policy issue in modernization of traditional societies', in *Land reform in Latin America: issues and cases*, Peter Dorner (ed.), *Land Economics Monograph No. 3*. Madison: University of Wisconsin.
10. Schultz, T. W. (1968) 'Institutions and the rising economic value of man', *American Journal of Agricultural Economics*, Vol. 50, No. 5, pp. 1113–22.
11. Hayami, Yujiro and Vernon W. Ruttan (1971) *Agricultural development: an international perspective* (Baltimore: The Johns Hopkins Press).
12. Hayami and Ruttan, *ibid.*, pp. 60–1.

13. Economic growth, of course, is dependent on many factors in addition to appropriate institutions. Improved technology may not be available, transport systems may be inadequate, capital may be extremely limited, etc. But even if these limitations are removed, growth may be slow because of the specific nature of the institutional arrangements.
14. Parsons, op. cit.

### SPECIAL GROUP K REPORT

Most of the discussion centred around the relationship between institutions and economic development in less-developed countries (LDC). There was a general consensus among the discussants about the need for viable institutions, also about the lack of continuity in the creation of institutions which are not only economically feasible but also politically acceptable in the LDC countries.

It was further brought out that in most of the LDCs institutions are created by political exigencies rather than economic necessity and most of the time to foster the power structure of the elite rather than the interest of peasantry. As a consequence the type of institutions created in the LDCs generally tend to hinder rather than help the growth processes.

The discussion also dealt with the many formidable problems that new institutions face against the traditional forces (institutions) which frequently do not support these processes of growth and hence development. However, it was pointed out that, given sufficient time and benefits generated by these new institutions, the original resisting forces of traditional institutions collapse. Along this line one remedy suggested to deal effectively with the traditional forces, is to create institutions on grass root support from within, rather than impose them upon the peasantry from the top.

Finally the group's attention was focused on the question of whether or not it is appropriate for economists to get involved in institution building. There seemed to be general agreement to the effect that the economist should be active in institutional development, not only in LDCs but also in DCs, but under an interdisciplinary 'team approach'; for institutions that foster economic development must be economically viable, politically acceptable, sociologically useful and technically sound.

Among the participants in the discussion were: S. I. Friedmann, *Mexico/Chile*; J. A. Groenewald, *South Africa*; D. Hathaway, *U.S.A.*; A. Kamali-Nafar, *Iran*; A. B. Lewis, *U.S.A.*; R. N. Tewari, *India*.