

# DISCUSSION:

## ECONOMIC DEVELOPMENT: Phenomenological Models and Irrelevant Controversies

*Khalid Saeed, Asian Institute of Technology, Bangkok, Thailand.*

*Helpful criticisms by Jørgen Randers, Edward Roberts, Richard Vokes, and Harry Clarke, and Editing Comments by M.J. Murphy are gratefully acknowledged.*

### ABSTRACT

This paper relates the various controversies of economic development to the limitations of the models underlying the specialist judgements. The paper further relates the limitations of these models to the limitations of the methodological tools used and advocates a radical change in methodological thinking for improving the practical utility of the analyses of economic development.

### 1. INTRODUCTION

The public policies for economic development in the developing countries over the past few decades have shown mixed results. Although these policies have been based more on the value judgements of the decision-makers than on the analyses of the specialists, the appearance of mixed results has led to controversial specialist views of the various problems of economic development. The economic development debate rages in many dimensions: There is a controversy about ideology among the classical, revisionist, and the radical schools<sup>1</sup>. There is a debate about the relative importance of the social, economic, and political aspects of development<sup>2</sup>. There are conflicting views about industrialization and whether it should emphasize import substitution or export<sup>3</sup>. There is a lot of hair-splitting about what is an appropriate technology for development<sup>4</sup>. There are numerous judgements made about the relative importance of growth and equity and the trade off between the two<sup>5</sup>. And last, but not least, there is a continuing exchange of rhetoric between the advocates of development assistance from the advanced industrial countries and its critics who complain about the alleged hegemony exercised through this assistance<sup>6</sup>.

Interestingly, the analyses behind the judgements generating the various controversies do not violate accepted methodological criteria, even though these analyses may entail many special assumptions that divorce them from reality. Using the analogy of Stafford Beer, each specialist views the world through his special, colored, truth spectacles and sees as the dominant characteristic the color of the world rather than what is taking place in the world<sup>7</sup>. Thus, the absolute merits of the various controversial views on the problems of economic development are seriously in question.

### 2. THE CONTROVERSIAL MODELS

However, this much must be granted. The specialist judgements on the problems of economic development are not completely divorced from reality. These judgements are usually based on the events arising out of the working of a

human organization under specific conditions of its supporting environment. However, a variety of events can be generated by an organization depending on the condition of its environment. Thus, judgements based on events relating to a specific set of environmental conditions may be highly phenomenological<sup>8</sup>. Indeed, the phenomenological nature of the competing arguments in most controversies of economic development can be easily demonstrated.

The most illusive of the controversies about economic development concerns its ideology. Most theories of economic development can be placed in a spectrum ranging between the Marxist and the neo-classical thoughts<sup>9</sup>. The theories with the Marxist bias postulate the existence of a dichotomy between workers and owners of capital, with worker compensation being determined at the discretion of the capitalists<sup>10</sup>. The neo-classical theories are silent about ownership and suggest that worker compensation depends on the marginal revenue product of the workers<sup>11</sup>. However, when both sets of theories are viewed as phenomena arising from the working of a single human organization, their points of conflict vanish. Workers will have a poor wage-bargaining position if they do not have any source of income other than wages for labor, which will occur when the ownership of capital is separated from the workers. Whereas, when workers own a substantial part of the capital, no one will have a distinctly superior bargaining power and consequently, it will be necessary to divide the output according to the inputs to production of those who contribute production factors. Thus, ownership will not appear as an important issue<sup>12</sup>. Interestingly, the Marxist theories emerged in an environment where the dichotomy between the capitalists and the workers was already established and workers were in a poor wage-bargaining position. The neo-classical theories, however, appeared at the time of the industrial revolution, the main actors of which were the artisan workers who were beginning to assume the role of the capitalists. As these artisans were largely self-employed, the ownership of capital was not widely separated from labor, despite the various accounts of the predicament of the early industrial worker which probably relate to the period when the landless peasants were moving into the industrial labor market, thus weakening the collective bargaining position of the workers. Thus, any debate attempting to establish the superiority of either set of theories is irrelevant as far as the functioning of the human organization that leads to the phenomena underlying these theories is concerned.

The debate about the relative importance of the social, economic and political aspects of development is equally ludicrous. A particular aspect will appear important if a significant event occurs at the same time as a policy related to this

aspect is implemented. Thus, GNP growth rate may appear to be linked with military expenditure<sup>13</sup>, or with the presence of strong dictatorships<sup>14</sup>, or with the introduction of an export-oriented policy of industrialization<sup>15</sup>, as long as the growth of GNP is coterminous with the appearance of any one of the above. The converse, however, is rarely established. It is quite likely that military expenditure or an increase in the control infrastructure of a regime are fueled by the growth in the GNP, and not vice versa<sup>16</sup>. Similarly, an increase in exports might occur because of an increase in the demand for the exported goods, without which, the export oriented industrialization policy would have little, if any, impact<sup>17</sup>.

The subject of appropriate technology for economic development never fails to invoke heated arguments in favor of the less sophisticated and labor intensive technologies that should be accessible to the poor, that should not create capital differentiation, and that should not "disrupt society"<sup>18</sup>. The question is whether a desirable social structure existed before any technology which would create capital differentiation and disrupt society is considered. Moreover, if the prevailing social conditions are not very desirable, which is often the case when a need for development planning is felt, is there any merit in favoring a technology that acquiesces in these conditions, even when this technology is less efficient. Perhaps it is more beneficial to find out what caused the undesirable social conditions that need to be changed, and, after having done that, to devise public policies for alleviating these conditions. An efficient and highly sophisticated technology introduced simultaneously with such policies may facilitate change in a desirable direction. In the absence of these policies, however, this technology may produce undesirable results and an acquiescing technology may accomplish nothing<sup>19</sup>.

The judgements about the trade-off between growth and equity postulate a dichotomous relationship between the two, although this postulate has been rejected by some<sup>20</sup>. Evidently, the dichotomy appears under some conditions and vanishes under others. Consequently, it is far more important to identify the conditions in which such a dichotomy might appear and to design policies to alleviate these conditions than to exercise value judgements about which should come first<sup>21</sup>.

Finally, the debate on foreign aid seems to be fueled more by political and sentimental rhetoric than by logic<sup>22</sup>. First of all, the controversy about the humane or hegemonous motives of aid is of little value. Perhaps, there will always be a political or an economic motive for aid<sup>23</sup>. A more important issue is how this aid is spent by the recipients and how it affects their social conditions and developmental goals<sup>24</sup>. Unfortunately, the political and sentimental a prioris also make it quite difficult to analyse aid-related matters dispassionately<sup>25</sup>. Although it can be said with reasonable confidence that foreign aid will facilitate development if there are not pressures in the sending and the recipient environments that prevent aid from being channeled to welfare activities<sup>26</sup>.

To sum up, it is not difficult to establish that a large part of the economic development debate is caused by comparing models, mental as well as descriptive and mathematical, which represent specific phenomena, and not the organizational structure generating those phenomena. As a unique organiza-

tional structure is capable of generating multiple phenomena depending on the conditions prevailing, there does not seem to be a substantive basis for the debate.

### 3. WHY CONTROVERSIAL MODELS ARE ACCEPTED?

The emergence of the phenomenological models in economic development can hardly be attributed to a professional perversity on the part of the specialists. All models, if they are to be deemed legitimate, must measure up to the criteria of validity prescribed by the practitioners in a field. But these criteria depend on what is acceptable within the prevailing methodological paradigm rather than on what can be advantageously applied to problem solving<sup>27</sup>. Thus, irrespective of its absolute expository or problem solving ability, a model may be professionally acceptable only if it does not violate the criteria of legitimacy which have been agreed upon in the profession<sup>28</sup>. Consequently, conformity to these criteria of legitimacy rather than usefulness must become the supreme consideration in all modelling efforts if a communication is to be established with the current practitioners, unless, of course, these criteria have created a great deal of professional dissatisfaction<sup>29</sup>.

Almost all prevailing methods of analysis, descriptive as well as mathematical pay lip service to what is hailed as the "scientific method". The scientific method demands that the deviation between the conceptual abstractions and the real world be minimized through repeated comparisons of the empirical data with the deductions drawn from the abstracted models concerning those data<sup>30</sup>. However, in practice, the criteria of correspondence between the models and the real world are defined subjectively on the basis of what can be conveniently achieved by using legitimized methods of analysis<sup>31</sup>. Interestingly, deviations from this criteria, even if enlightening, are often condemned by the patriarchs of the legitimized methods<sup>32</sup>. Thus, it is necessary to examine the prevailing criteria of methodological legitimacy in economic development and what shaped them, if the professional tendency to set up phenomenological models is to be understood.

### 4. APPROPRIATENESS OF THE METHODS OF ANALYSIS OF ECONOMIC DEVELOPMENT

Although the study of economic development appears to be firmly grounded in the discipline of economics, prior to 1945, the mainstream economists rarely sought information about the workings of the under-developed economies or provided any analyses related to economic development. Up to this time, only anthropologists and social scientists, mainly using statistical data, seem to have brought the problems of development to the fore<sup>33</sup>. Subsequently, perhaps from a comparison of the data of the west and the east, the lack of industrialization was diagnosed as the basic problem of the developing countries<sup>34</sup>. Thus, over the decades of 1950 and 1960, industrialization was pursued quite indiscriminately as the standard recipe for economic development. It was after several failures and over two decades that the element of social change in the process of economic development came to be recognised<sup>35</sup>. But, except for a few cursory efforts, a satisfactory framework for the analysis of this change has not been evolved. However, the methods of analysis used have become increasingly attached to formalism that is quite restrictive<sup>36</sup>.

This contrasts with the study of change in business management organizations, which has emerged as an important area for the application of behavioral science. The study of organizational change in the management field relies greatly on the general systems concept first proposed by von Bertalanffy<sup>37</sup>. Its models make a clear distinction between the observed phenomena and the structure of the organizations generating those phenomena, although, the analytical methods of behavioral science remain largely qualitative<sup>38</sup>.

The methodological capability to be able to deal effectively with change in the field of business management and the lack of this in the field of economic development, even though the study of change is an important aspect of both, points towards interesting differences in the outlooks on management of the private and the public organizations. Management of private organizations entails clear objectives and the expectation of definite results<sup>39</sup>. Thus, the primary consideration for acceptance of a methodological tool in the field of business management is its practical utility and not its adherence to the legitimized criteria of validity. This outlook has helped to construct a methodological framework which is not over-constrained by formalism and which can yet be made use of in an innovative way to tackle the important problem of change. Interestingly, the organizational theory forming the foundation of the field of business management has its origins in the Weberian models which originally were aimed at understanding and facilitating the management of public organizations. Due, however, to the practical emphasis in this field, this fact does not seem to have prevented the adoption of concepts of practical value that deviated from the Weberian view<sup>40</sup>.

On the other hand, the field of economic development appears to have grown mainly from the intellectual curiosity of the social scientists who were alien to the social organizations that were the subjects of their analyses<sup>41</sup>. The grounding of this field in the discipline of economics has also encouraged the adoption of the symbolic formalism of economics. This has not only limited the scope of its analyses, but has also divorced them from the organizational framework<sup>42</sup>. Because the organizational framework is most useful for the study of change, any models of economic development constructed outside this framework will not provide any useful insights even though these models may incorporate the formalism that qualifies them as valid in terms of the accepted methodological practices<sup>43</sup>. In fact, such models may usurp center stage by legitimizing many phenomenological views of a problem, and thus generating controversies that are irrelevant to the issue of change which is the main concern of economic development.

The increasing use of formalism in the models of economic development, in turn, also seems to have discouraged the adoption of an organizational framework for analysis. This is not to say that modelling methods using such formalism incorporate inappropriate criteria of validity. Indeed, these methods advocate that a model, if it is to be a good one, must always be observable, verifiable and canonical. However, the formalism required in expressing the understanding (or solution) of the models does not allow analysis of over-complicated models. Thus, these methods are not suitable for modelling relatively complex organizational systems,

whereas they can be easily applied to modelling the various phenomena generated by an organisation<sup>44</sup>.

More recently, complex computer models are increasingly replacing the simplistic mathematical models in the analyses of economic development. Unfortunately, most studies involving such complex models set aside the basic premises of the scientific method and, apart from observing a few situational validation procedures that conform to the legitimized views on validity but are otherwise irrelevant, they make little effort to achieve a correspondence between the models and the human organizations they attempt to study<sup>45</sup>. Such studies provide little, if any, understanding of the process of change, and, thus are not of much value<sup>46</sup>.

Interestingly, while the controversial models of economic development have generated a heated debate, they have made little, if any, contribution to the design of public policies for development, which continues to be largely governed by the value judgements of the policy makers and by political considerations<sup>47</sup>. It seems that, in spite of ongoing controversial dialogue among the specialists in economic development, there is little communication between the specialists and the policy makers. This poor communication between the specialists and policy makers can, at the outset, be attributed to the controversial views of the specialists that weaken confidence of their analyses. Communication is also considerably restricted by the increasing use of the symbolic formalism by the specialists that is not universally understood.

## 5. CONCLUSION

Economic Development is fundamentally a process of change. As such, a clear understanding of the social organization that is subjected to change, is necessary for obtaining any useful insights into this process. Furthermore, the public management aspect of economic development is of far greater importance than the satisfaction of the intellectual enquiries of the specialists. Thus, the analyses of economic development must strive to improve positively the efficacy of the public policies instead of providing controversial views that fuel more controversies. Even these controversial views are poorly communicated to those responsible for making public policies and implementing them. This calls for a serious rethinking about the methodological framework to be used for tackling the problems of economic development.

First of all, the analysis of the change which occurs as a result of economic development must become the focus of all enquiries on the subject. For this, it is important that a distinction be made between the phenomena and the organizations generating these phenomena. This is necessary because the events which occur over the course of a change render all phenomena non-durable, whereas, the structure of the organization generating these phenomena may remain relatively unchanged during the same period. This can be accomplished by adopting the general systems framework advocated in behavioral science.

Secondly, to avoid further proliferation of *normative models* bearing little correspondence to the real world, great emphasis must be placed on the establishing of empirical correspondence between the models constructed and the real world. However, the criteria for establishing this should be closely related to the purpose of the model rather than being largely

ritualistic. Thus, the process of validation of the models should be conducted in the true spirit of the scientific method, even though this process may not entail formalized procedures.<sup>48</sup>

Thirdly, the symbolic formalism, which has greatly limited the scope of modelling while ignoring the important issue of change, needs to be discarded. The necessity of a clear understanding of the behavior of the model must be emphasized as against the ability to express understanding (or a solution) using formal symbols. Computer simulation, if done intelligently, may lead to an understanding of model behavior that is comparable to the information contained in a formally-expressed solution, although the models that can be analysed by computer simulation can contain far more detail and, thus, be much closer to reality than those that can be solved by formal methods.<sup>49</sup>

Finally, great emphasis must be placed on the communication of the results of the analyses to those concerned with the formulation and implementation of public policy. This necessitates the expression of the results in a comprehensive and illustrative form that avoids specialized jargon and symbols.

These desirable characteristics have been incorporated into the system dynamics method for analysing social systems proposed by Jay W. Forrester<sup>50</sup>. This method has been applied with relative advantage for corporate planning and policy design<sup>51</sup>. It also appears to be quite promising for tackling the problems related to economic development and for designing effective development policies.

## NOTES AND REFERENCES

1. A concise survey of the various theories can be found in CONROY, Michael E., "Towards a Policy Oriented Theory of Economy in Latin American", in Portes & Browning (eds), *Current Perspectives in Latin American Urban Research*, 1976.
2. For a comparison, see KINDLEBERGER and HERRICK, *Economic Development*, McGraw Hill, 1977; ADELMAN & MORRIS, *Economic Development and Social Equity in Developing Countries*, Stanford Univ. Press, 1973; and FURTADO, Celso, *Development & Under-development*, University of California Press, 1971.
3. For data about various industrial growth patterns, see CHENERY, Hollis B., & SYRQUIR Moises, *Patterns of Development*, 1980-1970, Oxford Univ. Press, 1975.
4. The literature on appropriate technologies is quite vast. A classic is by SCHUMACHER E.F., *Small is Beautiful*, Bland & Briggs, 1973.
5. For a comparison of views, see ALONSO, William, "Urban and Regional Imbalances in Economic Development", in Friedman & Alonso, (eds). *Regional Policy: Readings in Theory & Application*, MIT Press, 1975; and LIPTON Michael M., *Why Poor People Stay Poor*, Harvard Univ. Press, 1976.
6. For a comparison of views, see any publication on aid of the World Bank, and GOULET, Denis, and HUDSON, Michael, *The Myth of Aid*, ORBIS Books, 1971.
7. BEER, Stafford, "Death is Equifinal", *Behavioural Science*, Vol. 20 1981.
8. KATZ, Daniel & KAHN, Robert, *The Social Psychology of Organizations* 2 ed., John Wiley, 1978.
9. CONROY, (1976), *op. cit.*
10. MARX, Karl, *Wage, Labor & Capital*, (translation of German Edition 1891), Progress Publishers, Mosco, 1974.
11. KINDLEBERGER & HERRICK, (1977), *op. cit.*
12. For an elaboration, see SAEED, K., *Rural Development & Income Distribution*, the Case of Pakistan, Ph.D. Thesis, MIT, 1980.
13. BENIOT, Emilie, "Growth and Defence in Developing Countries", in *Economic Development and Social Change*, Vol. 20, #2, Jan. 1978.
14. FRIEDMAN, John, "The Strategy of Deliberate Urbanization", *Journal of American Institute of Planners*, Vol. 34, #6, Nov. 1968.
15. CHENERY, Hollis B., et al., (1975), *op. cit.*
16. SAEED, K., "Political Revolutions and Fundamental Socio-political Change", *Proceedings of the 1982 AMS Conference*, Paris, July 1982.
17. BERGSMAN, Joel, *Growth and Equity in Semi-Industrialized Countries*, World Bank Staff Working Paper #351, 1979.
18. DUNN, P.D., *Appropriate Technology, Technology with Human Face*, MacMillan, 1978.
19. SAEED K., "Public Policy & Rural Poverty: A System Dynamics Analysis of a Social Change Effort in Pakistan", in *Technological Forecasting and Social Change*, forthcoming.
20. ALONSO, (1975), *op. cit.*: & LIPTON, (1971) *op. cit.* provide a comparison.
21. SAEED K., "Rural Poverty & Development Policy in Pakistan, The Case of a Resilient Income Distribution System", presented at the System Dynamics Research Conference, Rensselaerville, 1981.
22. WHITE, John, *The Politics of Foreign Aid, The Bodley Head*, (1974).
23. GOULET & HUDSON, (1971), *op. cit.*
24. TANDLER, Judith, *Inside Foreign Aid*, John Hopkins Univ. Press, 1975.

25. CHOMSKY, Noam, *For Reasons of State*, Vintage Books NY, 1973.
26. For an exploratory analysis, see SAEED, 1982, *op. cit.*
27. BELL, James A., and BELL, James E., "System Dynamics & Scientific Method", in Randers, Jorgan (ed), *Elements of the System Dynamics Method*, MIT Press, 1980.
28. BERGER, Peter L., & LUKEMANN, Thomas, *The Social Construction of Reality*, Allen Land, 1971.
29. KUHN, Thomas S., *The Structure of Scientific Revolutions*, Univ. of Chicago Press, 1970.
30. KEMENY, S., *A Philosopher Looks at Science*, D. Van Nostrand, Princeton, 1959.
31. FORRESTER, Jay W., *Two Views on Validation of System Dynamics Models* D-2690, SDG, MIT, 1977.
32. CASTI, J., "Systemism, System Theory and Social Systems Modelling", in *Regional Science and Urban Economics*, Vol. II, 1981, pp. 405-429.
33. ARNDT, H.W., "Development Economics Before 1945" in Bhagwati & Eckus (eds), *Development & Planning* MIT Press, 1973.
34. ROSENSTEIN-RODEN, Paul, "The International Development of Economically Backward Areas". *International Affairs*, April 1944.
35. MORAWETZ, David, *Twenty-five Years of Economic Development 1950-1975*, The World Bank, 1977.
36. See however, ROSTOW, W.W., *The Stages of Growth: A Noncommunist Manifesto*, Cambridge Univ. Press, 1971, and CURIE, L., *Accelerating Development*, McGraw Hill, 1966.
37. BERTALENFFY, Ludwig Von, *General Systems Theory*, George Braziller, NY, 1968.
38. For a discussion of the analysis framework, see KAHN & KATZ, (1978), *op. cit.*
39. MILES, Ramond E., *Theories of Management: Implications for Organizational Behaviour & Development*, New York, McGraw Hill, 1975.
40. For an interesting discussion of the historical development of the organizational theory, see SOFER, Cyril, *Organization's in Theory and Practice*, London, Heinemann, 1972.
41. BUTANI, D.H., "The Quality and Perspective of Indian Economic Thought", *Indian Journal of Economics*, 1941-2.
42. BROWN, E.H. Phelp, "The Underdevelopment of Economics", *The Economic Journal*, March 1972.
43. See WORWICK, G.D.N., "Is Progress in Economic Science Possible", *The Economic Journal*, *op. cit.*
44. LEONTIEF, Wassily, "Theoretical Assumptions and Non-observable facts", *American Economic Review*, March 1971.
45. For a comparison of the various modelling methods, see GREENBERGER, Martin, et. al. *Models in Policy Process*, Russel Sage, 1976.
46. FORRESTER, Jay W., "System Dynamics, Future Opportunities", in Legasto et. al. (eds), *System Dynamics*, North Holland, 1980.
47. Evidence of this may be found in many empirical studies. See for example, MIZRAW, John D., *Dynamics of Community Development*, the Scarecrow Press, 1973; and BURKI, S.J., "The Development of Pakistan's Agriculture: An interdisciplinary Explanation", in Stevens et. al. (eds) *Rural Development in Bangladesh and Pakistan*, Hawaii Univ. Press, 1976.
48. See FORRESTER, Jay W., *Confidence in Models of Social Behaviour with Emphasis on System Dynamics Models*, D-1967, SDG, MIT, 1973.
49. See FORRESTER, Jay W., *Industrial Dynamics*, MIT Press, 1973.
50. FORRESTER, Jay W., *Computer Models & Public Policy*, D-3267, SDG, MIT, 1980.
51. Several interesting Corporate Applications as discussed in LYNEIS, James L., *Corporate Planning & Policy Design. A System Dynamics Approach*, MIT Press, 1980.