William H. Matthews (ed.) *Outer Limits and Human Needs, Resources and Environmental Issues of Development Strategies,* The Dag Hammarskjöld Foundation, Uppsala, 1976, (102 pp.)

Reviewed by Liberty Mhlanga *

This book is from three papers and a summary of issues selected from thirty-three basic and discussion papers which were presented in an independent contribution to the Seventh Special Session of the United Nations General Assembly. The contribution was the first phase of the 1975 Dag Hammarskjöld Project on Development and International Co-operation. This work first came out in the Dag Hammarskjöld Foundations journal « Development Dialogue » special double issue of July 1975 published under the title « What Now : Another Development », with editions in English, French and Spanish. The most significant factor contributing to the lauching of this project was to inquire into « the means of satisfying basic human needs without transgressing the outer limits of the biosphere ».

There were three fundamental issues to be explored conceptually. They were basic human needs, outer limits and development strategies which balance concern about both of these. This book addresses the latter two issues directly and the first one only indirectly. One paper by Prof. William H. Matthews, a senior research scholar at the International Institute for Applied Systems Analysis, Laxenburg, Austria, grapples with the conceptual problem. Two papers on Ecosystems and Development are done one by Prof. Ignacy Sachs, the director of the International Research Centre on Environment and Development of the University of Paris, and another by Dr. M. Taghi Farvar, the Vice-Chancellor for Ecodevelopment at the Bu-Ali Sina University, Hamadan, Iran. The fourth paper by Mr. Joseph C. Perkowski, a doctoral candidate in environment at the Massachusetts Institute of Technology, Cambridge, Massachusetts, concentrates on Developing the Methodology.

Professor Matthews'paper entitled « The Concept of Outer Limits » argues for sophisticated understanding of many societal and political processes as necessities for the determination of resource and environmental limits by physical and natural scientists. The limits are in the context of local, regional or global dimensions. He advocates that the planning and decision making processes should include scientific, economic, societal and political factors at every stage. The author further asserts that limits are determined by « the way man conducts his activities with respect to this natural situation ». « Outer Limits », the author further argues, can be with respect to a variety of geographical or political considerations. The limiting factors are scientific, cultural, institutional and technological.

Resource need, he says, is determined by the context within which outer limits are considered. This also determines types of environ-

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mental systems, mixes in social values, political structures, international and intercultural aspects. The definition of « outer limits » becomes complex and more difficult with additions of societal and political units. Were the objective to prevent transgression of global outer limits in development then the first culprits would be the developed countries whose present living standards require resources way beyond their national outer limits. Of course this rate of resource used is bound to sooner or later bring the developed and developing countries into a clash especially if we get a global « tragedy of the commons » before the problem is clearly perceived. The under-lying motive of course in the whole process is « sustainable meeting of basic human needs » for the indefinite future.

The very formulation of the two ideas viz meeting basic human needs for the indefinite future and keeping within « outer limits » suggests both conflict and contradiction. Conflict in the sense that humans by their very nature are characterized by growth and this growth is dependent on finite resources the depletion of which means reaching or transgressing the outer limits. Before reaching these outer limits of course conflicts of one kind or another will arise among the organisms or humans affected in this case in competition for fewer resources to meet the basic needs. Contradiction because the idea of outer limits suggests that the system we are dealing with can not be maintained into the indefinite future. The two ideas meeting basic human needs for the indefinite future and keeping within « outer limits » seem unrealistic in today's world which is characterised by so much waste of resources, lack of care for basic human needs, exploitation of human beings and natural resources way beyond both national and international outer limits and indifference to effects on environmental systems. However, this does not mean that the enquiry is invalid.

At this point we wish to ask some of the questions which this analysis raises in our minds that seem more fundamental than what the exposé has so far addressed itself to. Granted, the author leaves his conclusions open ended and subject to adaptation into different approaches and he does not address his arguments directly to basic human needs of course. Are the basic needs to be determined by those who can do something about them or by those that have the needs ? Is it possible to meet basic human needs without reaching beyond the outer limits of both resource and environmental systems ? What is meant by and who determines the meaning of outer limits and what constitutes going beyond these outer limits ? May be the greatest contribution of Professor Matthew's paper is to make us think of posing these questions because they need to be asked in the process of development and if they are not asked we obviously will not get answers to them.

Professor Sachs' paper looks briefly at the concept of ecodevelopment which he perceives as a development style in each ecoregion calling for solutions specific to particular regional problems taking into account cultural and ecological data on both a short-term and long-term basis. It involves criteria of progress related to particular

cases, and environmental adaptation postulated by the anthropologists plays an important role. Ecodevelopment in the context of this paper tries to meet basic human needs by means which do not transgress outer-limits. The paper advocates sustained research efforts, with critically reviewed pilot activities to establish a permanent feedback between practice and action-oriented research. He gives definitions, guidelines and principles of ecodevelopment giving examples to illustrate the scope of application of strategies of ecodevelopment.

In his introductory paragraph Prof. Sachs says how anti-novel counter-culture and zero growth are social symptoms re-examining the values of society in search of new ideological responses to unsolved problems in the midst of « progress » and material « growth ». The Third World, he says, is today wondering if the concept of « development » founded on « efficiency » should not be replaced by that of liberation, based « on social justice and the creation of a new man ».

Further Prof. Sachs says that there is gaining acceptance of the notion of organizing possible futures and « choosing a desired future ». A global and normative planning approach is beginning to replace extrapolation and the sectorial method is being replaced by Cartesianism systems approach. He advocates the internalization at every decision making level of environment as it is a dimension of development. The rich countries, he says, will have to evolve by radical institutional change forms of development, less environmental polluting techniques and making decreased use of resources.

Environment he defines as « the total habitat of man » — a definition which he admits is restrictive. He also sees it as made up of every thing that does not form part of the purposive system under consideration, though it does affect the performance of that system ». The sucess of environmental policise, he says, « will be measured by the disappearance of the very concept of environment, which will in the end be internalized by the system ». This definition, Prof. Sachs says, invites us to better identify ecological and societal impacts of action undertaken, to achieve explicit objectives of the purposive system constituted by development policies, leading to redefinition of development objectives to control more effectively ecological and social impacts of proposed action.

Eight guidelines of ecodevelopment are given comprising developing in each ecoregion resources needed to specifically satisfy basic human needs ; ecodevelopment should contribute to man's fulfilment ; identification, exploitation and management of natural resources is conducted with solidarity with future generations in mind ; taking advantage of recycling resources where possible ; reliance on the natural capacity of the region for photosynthesis in all its forms ; development of ecotechniques and new education systems ; the authority in charge of ecodevelopment activities should include the participation of the local population concerned ; systems of values and attitudes to nature which nurture respect for nature should be taught. The guidelines are followed by ecotechniques applied in ecodevelopment strategies in food production, housing, energy, conservation of natural resources and social services.

The concept of ecodevelopment as presented here sounds both idealistic and probably a little too optimistic. Idealistic in the sense that some of the examples which we have been given as illustrative of man living more or less harmoniously with nature are representative of a marginal collection of communities whose « harmony » with the environment is more illustrative of the isolation of the communities from exploitation by the outside world than of their resilience or durability in the face of the on-slaught of « civilization ». It is optimistic especially to think that, the price of destruction and pollution of natural ecosystems is not only being realized as a threat to be arrested but will force rich countries to decrease their use of resources. If their economic exploitation of other countries and poor people is any measures of their sympathy towards exploitation then social justice and the creation of a « new man » are but a pipe dream.

Dr. Farvar's paper gives specific examples of the development of « net underdevelopment » in poorly conceived approaches judged by criteria of meeting basic human needs. He concludes, like Professor Sachs, that a new approach to development termed an « ecosocietal » or « redistributive » environmental approach should be instituted « if basic human needs are to be met in a sustainable manner ».

Development and environmental degradation, according to Mr. Farvar, are the « opposite ends of the same spectrum ». When the balance of nature is altered in our favour, we have the one — development. When the alternation upsets the balance against our interests we have the other — deterioration of the environment. Development as perceived by Dr. Farvar also implies increased access by common man to vital resources, their distribution equitably and meeting basic minimum needs of the population. Minimum environmental needs for development are termed « inner limits ».

This paper outlines the fundamental problems which have been wrong with quite a number of development projects in different parts of the world and advocates reorienting the path of development to an ecosocietal approach. Dr. Farvar's paper would be very much strengthened if it included some details on environmentally successful development projects which take into account an ecosocietal approach. The way this paper appears now gives a one sided expression of « technological disasters ».

Mr. Perkowski's paper takes up where Prof. Matthews' paper left over. It deals with the conceptual framework and lists technical considerations needed to determine where « outer limits » are in the context of a particular development strategy - energy production in this case. He systematically illustrates complexities encountered in addressing the challenges of ecodevelopment in a systematic way. These form a first step in determining what level of analysis, data types, societal and political decisions are required by governments to adopt the principles of ecodevelopment.

The author approaches the technical considerations by suggesting first, a hierarchy of « building blocks » for analysis of development options. Second, constructing a finite list of alternatives which are neither too limited nor too expansive to make the analysis tractable;

third, choosing a finite list of resources and environmental systems with important implications for outer limits among numerous alternative strategies ; fourth, determining the degree of regression in accounting for resource and environmental costs in the system being considered as there is sometimes a problem of determining combined impact when it is approached one way to meet one need and another way to meet another need at the same time ; fifth, information — scientific and technical — available on resources and environment in a given society for use as basis for a detailed determination of outer limits.

In choosing energy production, consumption and disposal analysis, Mr. Perkowski makes a valid choice of subject matter, but narrows the parameters rather too much by his choice of energy sources like coal and oil which are generally non-renewable. Some of the main sources of energy available to practically every country but going to waste in many cases are solar and wind energy, whose sources are at no cost and leave no waste generally. These, it would seem, are not only fundamental energy sources but are durable resources of everlasting availability deserving strong consideration for future use with a potential of being centralized or made available at decentralized sources. Granted, the author says that the list of alternatives is limited by the practical reality of current available technical options. Of course one of the major technical realities is that the resources used by developed countries consume a great deal of energy and the ones the author uses for his exposé come from relatively poor countries usually or poor areas of rich countries. This makes it less urgent for the rich companies owning these resources in poor areas to look into solar and wind power which would be potentially useful to both rich and poor populations.

As an acedemic exercise, there is validity and useful information in all four of these papers. In charting first steps in the path of meeting basic human needs of course the exposé remains an academic one whose usefulness is p robably in its revelation of the profoundness and immensity of the problems of development. For the practioner who is looking for anwers to day to day pressing problems these papers only leave pessimism at finding such a paucity of what to do to meet « inner limits » without transgressing his own « outer limits ».