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ENVIRONMENT AND DEVELOPMENT

REGIONAL SEMINAR ON ALTERNATIVE PATTERNS OF DEVELOPMENT
AND LIFE-STYLES IN ASIA AND THE PACIFIC

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"Not only additional constraints but also new development possibilities are at the heart of environmental considerations"

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CONCEPTUAL PAPER

ENVIRONMENT AND DEVELOPMENT

BY

RAJNI KOTHARI

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ABSTRACT

This paper stresses the global dimension of the human predicament. The material progress of modern times has led to increasing inequity on a world scale. The global structure that ensures a continual flow of technology and resources towards the industrialized and away from the non-industrialized countries is attended by increasing poverty and deprivation. Technology has become the incarcerator, not the liberator of mankind; the domination of man by the machine means not just a continuous need for energy and raw materials, but the increasing redundancy of man himself.

The rampage of technology and the current economic and political structures are sacrificing the life chances of future generations. The narrow pursuits of economic prosperity and modernity have led to crisis and deception in the "developing" and "developed" world and prompted the search for a new paradigm. It is a time to rediscover the traditions of science, some emanating from the countries of the ESCAP region rather than from the West, which take a comprehensive, holistic view of science and culture and conceive knowledge as part of the larger process of self-realization. The basic issue is one of life-styles since the richer strata in both "developing" and "developed" countries indulge in patterns of living that perpetuate global inequity, deplete world resources and unsettle nature's fine balance. Global inequity is exacerbated by the industrialized countries' ability to preserve their economic advantages through various economic means, one of the results of which is the export of pollution to the third world.

The search for alternative patterns contains some ironies. Today's "conservationists" are identified with the richer North, and the "developmentalist" with the poorer South. The third world wishes to undo global disparities, but has embarked on "modernist" development which will deny it its goal. There is a consensus that the new basic approach should embrace four concerns: (a) a holistic view of development, (b) a concern with equity based on autonomy and self-reliance, (c) an emphasis on participation, and (d) an accent on the importance of local conditions and the value of diversity.

Important problems in the context of the ESCAP region are the exhaustion of land and soils, capital-intensive industry and the emphasis on industrialization, energy use, forestry destruction, misuse of water resources, unemployment. Science must be directed at achieving greater consonance of nature's processes and be a liberating, not a constraining, force.

A basic strategy must comprise three facets: (a) new life-style norms with regard to consumption and income distribution, (b) avoidance of spatial concentration, supported by (c) a continuum of relevant productive orientations and technology. The policy implications for such a strategy are employment generation through agricultural uplift and rural industrialization, greater socio-economic fusion of urban/rural and regional activities, the spreading of education and literacy (with emphasis on the education of women) and a new "ethic of consumption" that shifts production priorities towards fulfilling the needs of the poor. Other goals to be striven for are the satisfaction of basic human needs such as health and nutrition, the setting of minimum as well as maximum limits with regard to conditions of material welfare, and wider participation in production and in decision-making.

I. PERSPECTIVE

Concern with the environment in its renewed and somewhat urgent form is now more than a decade old. A major international conference under the United Nations auspices followed by the setting up of UNEP and the propagation of the concept of eco-development, a sustained programme in public education promoted and directed by UNEP, UNESCO, the Dag Hammerskjold Foundation and other prestigious bodies, a large number of expert meetings, intergovernmental consultations and the United Nations General Assembly resolutions, provocative and highly publicized reports from the Club of Rome, the Cocoyoc Declaration and reports of a series of international and national seminars, workshops, training programmes and research projects as well as a large output of books and journals specially devoted to this cause have all sought to infuse the environmental dimension into thinking on international and national strategies of development. And yet it seems that consciousness of this is still moribund and halting and shrouded in controversy. Yet another major effort is now under way to build the environmental concern into the basic thinking on development strategies and policies. The current spate of discussions on a new international development strategy for the 1980s seems to have provided a fresh impetus to this effort.

There must be some reason why this all-important matter that has such a vital bearing on the prospects of development, the well-being of future generations and the quality of human life on this planet has to be still argued and "sold" for in an almost defensive manner. Not simply this. There is still a great deal of suspicion, especially in the Third World, about the motivations behind such an educational drive. And there are still many influential voices in the industrialized countries themselves which seem to regard the arguments for ecological balance and environmental preservation as well-meaning but ill-informed and unduly pessimistic. Surely there is something wrong somewhere: if the case for preservation and sustenance of the environment is so obvious, why this constant need for its repeated justification, why this unnecessary defensiveness about it?

We have deliberately posed this issue at the start of this paper. It is necessary to face up to it if the case for the human environment is to make a breakthrough and if its concerns are to inform the thinking and action in various parts of the world. It would seem that the reason for this state of affairs is to be found in the very manner in which important issues get posed in international forums. They get posed in a framework of a discourse that lies at the root of the over-all malaise in which the

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dialogue on development itself takes place, and this in turn is part of the manner in which all knowledge takes shape and is disseminated in the modern world, viz. in fragments and highly specialized capsules. Modern science, modern technology and modern communications are all subject to this fragmented approach to human problems. (We shall show later that this itself is part of the basic predicament facing mankind.)

Not until this view of development as a linear aggregation of a series of specialized inputs gives place to a comprehensive and holistic perspective will the case for the environment be fully established. Not until the United Nations system and other international - as well as regional and national - agencies cease to operate in isolated and water-tight compartments will the environmental concern be seen for its real worth - not as one more variable, or dimension, or even perspective, but rather as providing a new comprehension of the human problematique entailing an alternative paradigm of scientific endeavour and an alternative design for development. The point at issue is not one of convincing policy-makers of the need to build the environmental concern into development policies, it is not even one of perceiving the intimate interrelationship between environment and development; it is something far more fundamental. It involves nothing short of a new concept of development based on a clear admission of the faulty and inappropriate, wasteful and irrational, inequitous and exploitative, and in the end highly dangerous and possibly suicidal nature of the present model of development and the need to replace it by another. Furthermore, the conceptions of progress and human well-being and the definition of human needs underlying the present development model, the role assigned to science and technology in it, and the relationship between knowledge and human arrangements assumed in it are all at fault and need to be redesigned.

Later in this paper we shall lay out in some detail the profile of an alternative design for development (which should be definition be "environmentally sound", just as it should be economically and socially more just and politically more participatory and democratic). But before we do that it is necessary to provide a diagnosis of the reasons why the present model of development which once held out such promise and gave rise to the vision of "continuous progress for all" has come to grief. In what follows we shall provide such a diagnosis in the context of a fast changing process of history, its philosophical underpinning and its consequences for the politics of development.

II. HISTORICAL OVERVIEW

We may begin with a comprehension of some fundamentals. The most fundamental point to grasp is that we live in a period of profound transformation which is engulfing and interlocking diverse regions, cultures and ecosystems into a common enterprise, and in the process giving rise to new thresholds of conflict waged on a scale unheard of in earlier times. Whereas thinkers and philosophers from time immemorial have tried to define the human predicament by reference to the need to overcome conflict through some kind of a social order, most of them thought in terms of a single society or at most of conflicts between two or more societies. For the first time in recent years we are realizing that this predicament is now on a world scale. And all actors in it, and perhaps most of all the weakest and the most deprived among them, need to think in terms that cover all men and all societies. The end of colonialism, the unprecedented increase in population, the urgency of the economic problem, the sudden sense of the bounties of nature drying up and a feeling of scarcity of basic resources in place of a feeling of continuous progress and abundance for all - all these point on the one hand to a scenario of growing conflict that will become worldwide in scope and on the other hand to the need to work out new solutions based on a new structure of human co-operation.

A. CHANGE IN SCALE

This change in the scale of the human problem is based on both negative and positive developments. The negative factors are on the whole obvious - the threat of a different kind of war and the considerable increase in both external and internal violence, the enormous economic gap dividing the rich from the poor countries, the all encompassing structure of dominance and dependence in which formally independent and theoretically equal States are tied almost inextricably in an unequal relationship, and above all a large increase in inequality in the world as a result of modern technology to which only the strong have access and which has led to a cornering of world resources by those who are already rolling in plenty rather than those who are most in need (even though a large part of these resources are located in the poorer continents). All these factors converge into a common pattern of violence, dominance and exploitation that has become global in scope.

But there are also positive factors that have contributed to thinking in world terms. We have come a long way from the days when men lived in small tribal enclaves, inward drawn and fearful of outsiders, when human

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communities numbered no more than a few hundred each. Both modern man's "mastery" over the rest of nature and the conquest of territory through which the modern state was consolidated have enabled him gradually to overcome the local strife and constant violence to which he was once prone. Through conquest and consolidation and the gradual building of assets and institutions, man has over the centuries overcome parochial conflicts and local wars which were the order of the day until not long ago, so that today in many parts of the world stable conditions prevail and wider loyalties and peaceful behaviour are possible. Equally important has been the economic use to which both the appropriation of nature and the conquest of territory have been put. It was through the creation of economic surplus and its continuous multiplication and embodiment in capital and industry that it became possible to overcome the condition of scarcity and contain the conflicts based on that condition. Also giving the process of economic expansion an enormous surge forward, was the age of imperialism - which provided cheap raw materials and the vast spaces of the colonized lands, as well as ready markets, which were all essential for pushing the slow-moving "Industrial Revolution" into the age of affluence. The structure of economic and political expansion that followed laid the foundations of the modern world as we know it.

B. CHANGING NATURE OF HUMAN CONFLICT

Now, these very conditions that enabled modern man - mainly Western man - to overcome the mean and brutal life he was earlier used to, and enter an age of surplus to which human energies were diverted, have produced a new situation for the world as a whole. Whereas human beings have been able to overcome primitive forms of conflict and local rivalries (and this has happened in not just the Western but also the non-Western regions), new forms of conflict have arisen and are projected on to a much wider canvas; and to no small extent because of the successes of the Industrial Revolution and of the Age of Imperialism, so that today we face a totally new kind of crisis. The major conflicts that face us today are not between neighbouring tribes or between settlers and migrants or plainsmen and hills people, nor between caste or language or religious groups or between rival regions within the nation-state - these conflicts are still there but they are likely to lessen in importance with the passage of time. The real conflicts are now global in scope. These may be economic, military and strategic in nature, with the different regions and nations confronting each other over control and distribution of world resources and patterns of international trade and

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control of technology, and over regulations governing the environment, the ocean beds or nuclear energy.

Underlying all these are the growing magnitudes of poverty, population growth, malnutrition and unemployment that affect large sections of the human race. Whether one takes one or all of these dimensions of conflict, they have all become global in scope and have given rise to deep cleavages and crises. It is only by thinking in terms of a world order that can deal with this new situation in human affairs that man will have to find his salvation. It will call for the need to turn to quite new ways of attending to human problems. But it is not impossible to do this once the problems become clear and we are able to move out of the old grooves in which we habitually think.

It is necessary to grasp this point. For it is only at times of deep crises facing mankind that major changes become possible - for better or for worse, for man is capable of both. It is a time when we can either seize the opportunity by deciding to control our future and usher in a new era, or we may miss the opportunity and be pushed into a downward course by forces beyond our control, after which it may be difficult to retrieve the lost ground. That we are caught in such a moment of crisis should be clear to anyone who reflects on the concrete realities of the world we live in and the developments taking place in different parts of this world - in economics, in politics, in the availability and distribution of resources, in the relationship between food and population, in patterns of trade and control of technology, and in the strategic and power relations in which the different nations and regions find themselves confronting each other.

C. CHANGING PERCEPTIONS ON HUMAN CRISIS

Now while it is recognized that the contemporary human condition is one of a deepening crisis, perception as to the nature of the crisis and causes thereof has changed over the last two decades. Until recently - and this view still persists - the crisis was perceived in terms of an ideological struggle between different ways of life and systems of belief, not infrequently associated with a struggle for power between rival blocs of countries. A very large part of human energy and world resources was devoted to this conflict, which is by no means yet over and which in no small way accounts for the terrible arms race that enveloped the world and still persists. Later, after the mid-1960s and the gradual erosion of the cold war, attention got focused on something more immediate and very

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pressing, but which had somehow escaped human sensitivity for so long, namely the great economic schism that is dividing the world into extremes of affluence and deprivation, with concentrations of poverty and scarcity and unemployment and deprivation in one vast section of mankind and of over-abundance and over-production and over-consumption in another and much smaller section of the same species. Furthermore both these are tied together in a relationship in which resources from the poorer regions have for long been drained out and continue to be drained through new instruments of appropriation. The last few years have witnessed an increasing concern with this single problem of inequity on a global scale though it must be admitted that very little has been done systematically to solve it; indeed it has been getting worse.

All these perceptions of the nature of the human crisis are still relevant - as found in the mounting piles of ever more deadly armaments on the one hand and the growing hordes of the very poor and the undernourished living in conditions of extreme deprivation including starvation on the other. But one needs to think beyond single dimensions and look to more fundamental causes. After all, the fact that a century of unprecedented material progress has also been one of sprawling misery and increasing deprivation; the fact that an age that has witnessed the end of empires and has seen the dawn of independence for so many nations has also turned out to be an age of increasing domination of the world by just a few powers; the fact that despite world agricultural production having been ahead of population growth, food availability has become a serious problem for millions of people; that on balance there is a net flow of nutritional resources from the poorer and more populous to the richer and less populous regions of the world; the fact that policies of "aid" and transfer of technology and resources from the industrialized to the non-industrialized regions has in effect turned out to be a net drainage of surpluses from the latter - all these and similar other evidences from contemporary life suggest that there is something basically wrong with our world and the global structures that have permeated it. Indeed, there is something basically wrong with the way modern man has gone about constructing his world.

Industrialization was supposed to be an end to the condition of scarcity for mankind as a whole; in fact, it has made even ordinary decent existence more scarce and inaccessible for an increasing number of human beings. Modern education was supposed to lead to continuous progress and enlightenment for all and with that a greater equality among men and women; in fact, it has produced a world dominated by experts and bureaucrats and

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technocrats and one in which the ordinary human being feels increasingly powerless and manipulated by forces beyond his control. Similarly, modern communication and transportation were supposed to have produced a "small world" in which the fruits of knowledge and development in any part of the world could become available to all the others; in fact, modern communication and fast moving transportation have produced a world in which a few metropolitan centres are sucking a large part of world resources and depriving the other regions of whatever comforts and skills and local resources they once used to enjoy. Surely, then, there is something more deeply wrong with the structure of this world than the mere production of nuclear weapons or the economic handicap of the poorer countries. The world we live in is indeed very badly divided, but the divisions are more fundamental than merely ideological, military or economic. Perhaps there is something wrong with the basic model of life that man has created in the last hundred years or so.

D. ROLE OF KNOWLEDGE

Crucial to this particular model of life which has produced a world of such sharp divisions based on such enormous inequality and exploitation, is the role of knowledge in human affairs. Never before had the product of the human mind acquired so dominant a role as in modern times. It has changed the world beyond recognition and, according to some, perhaps produced one beyond redemption. Its basic contribution has been to give to man a tremendous sense of power and manipulation. Nothing else could have made man so arrogant as this particular role of knowledge.

Now it would be quite an obscurantist position to take if one were to say that knowledge by itself has brought mankind to grief. The rise of modern science has if anything been a great liberator of man from both the travails of nature and the excesses of religious doctrine. But something happened to the progress of science which undermined its original promises. Because it flourished in a culture that looked upon it as an instrument of power and domination rather than as a liberator of the human spirit as such - which is how knowledge was looked upon by the ancient civilizations of China, Greece and India - science soon became an instrument of technology which again, not content with overcoming hardships and fulfilling basic needs, went on a rampage for continuous domination, exploitation, competition and perpetual tension - both between man and man and between man and the rest of existence. In the course of time it also became an instrument of monopoly and growing inequality in which, while the fruits of technology were diffused widely within some societies, this happened at the expense of a great many

other societies, many of which incidentally provided the basic raw material for prosperity in those few societies.

In sum, then, largely because of a particular cultural location where modern technology flourished - a culture that was basically aggressive and in which there was not enough of moderation and self-control - it has become a Frankenstein. This is being realized only of late. And it is being realized not because of the inequities to which modern technology has given rise - after all the problem of poverty emanating from a pursuit of plenty was not posed until very recently - but rather because the myth it had given rise to has exploded. This was the myth of perpetual material progress, of the end to scarcity, and of the possibility of making this progress infinite and unending and hence available to all. Today suddenly the affluent world itself faces the spectre of scarcity once again and at the same time is beginning to see the excesses to which modern technology has brought it, as is being expressed in the continuing concern with the environmental crisis. In fact, however, the environmental crisis is only a symptom of a very basic change in relationships - from man's reliance on nature to man's dependence on machinery which in turn entailed an increasingly aggressive relation of man with nature, denuding it at a rate much faster than its capacity for renewal and regeneration thanks to an ever growing demand for energy. But this has also entailed a growing exploitation of human beings. The domination of man by the machine - and his dependence on it for his sustenance - means not just the constant and continuous need for energy and raw materials; it also entails less and less need for human beings. The result is that there are in this world millions and millions of what are known as "marginal" men and women, people for whom society has no use. The upshot is that man himself has become superfluous and obsolescent; he is being looked upon as a burden not just on nature but also on society. Paradoxical though it may sound, the system that modern man has produced is one in which the most dispensable element is man himself.

The crisis that faces modern man is a crisis wrought by a particular direction that science and technology took under the impact of the age of positivism. The full consequences of such a course are seen in our time as it envelops all the particular crises to which man of science and philosophy have drawn our attention - the threat of total war, the threat of extreme deprivation coexisting with overabundance, the threat of the collapse of the biosphere. As we realize this we must also realize that nothing short of fundamental rethinking about the human enterprise will redeem man from these

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crises and that such rethinking will have to address itself to the world as a whole. For what we face here is an extreme dualism of the world, a world so divided that its survival itself is at stake. Even if a nuclear war is avoided - and even that could not be ruled out if the divisions facing mankind become sharper and deeper - it is not certain that such a badly divided species can survive the increasing state of tension and violence that it will have to face. Many other species under such conditions have perished. None of them had the instruments of mutual destruction that humans have.

E. COLONIZING THE FUTURE

So far we have been concerned with the growing division between the different regions of the world we live in, based on a convergence of many factors, and producing conditions of increasing deprivation and exploitation in major regions of the world, despite most of them being formally independent, despite their large populations and great potentiality, and despite their considerable resource endowment and rich cultural heritage. Such a dualism of the world along the dimension of space and region is, of course, the most important division that faces contemporary mankind. But there are other divisions, potentially no less troublesome, to which thinkers are only now beginning to pay attention, and as yet rather dimly. The most important among these is the division between generations. By this I do not only mean what is usually known as the generational conflict between old and young which is of course important and quite serious and which has not received systematic attention despite a great deal of talk about it. What I have in mind is something more comprehensive, namely the division between the present and the future, the future including both the very young among us and the yet unborn generations. Never before has this concern with the future been of such immediate relevance and urgency as it is today. While rational anticipation and prudence in preparing oneself against the future were inherent in all earlier times (though even this has been diminishing in recent times), the future consequences of present action were never as irreversible and hence ethically relevant as they are today.

Once again this is a result of modern technology. The use to which man has put it has had a powerful impact on beings that have had no voice in the making of vital decisions that have affected their lives in so many ways. As the growing economic, energy and environmental crises are now showing us, decisions taken at one point in time have the power to affect future generations in ways that are by and large irreversible. The consequences of what our parents and the older generation among us did - the ravaging of nature, the

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depletion of resources, the pattern of investment, the stock-piling of armaments, the building of highly centralized economic and political structures that are difficult to change except by long struggle and violence - are being felt by the younger generation of today. And what the middle and the younger generations of today will do will shape the destinies of the unborn generations of tomorrow. How is one to ensure that the interests of the younger generation and the yet to be born generations of the future are somehow represented in the present? They have no voice in the decision-making processes of modern society, least of all in representative systems of government of which only the old (whom we prefer to call "adults") have a monopoly. It has been an assumption of planning and of prudence generally that one must sacrifice or postpone gratification in the present so that the future generations can live a better life. In fact, however, modern man has been doing just the opposite. He has been so involved in his own gratification in the present, towards which the mass media and advertisement agencies have been pushing him, that he is in fact sacrificing the life chances of future generations - which will consist of several billions of people.

Thus just as decisions taken in the metropolitan centres of the world and their ever-rising consumption of finite resources are adversely affecting millions of people in far off places, decisions taken by the old are affecting and will continue to affect the future of the young and the yet unborn generations. These are serious questions to which the present models of politics and economics provide no answer. They call for a different kind of consciousness which takes a total view of existence, empathizes with the weak, the distant, the unborn and the inarticulate, and can intervene in legislative and administrative processes at various levels of the world without, however, degenerating into some kind of Brahminic or mandarin class or clergy that arrogates to itself all knowledge and wisdom. As yet such a consciousness (which no doubt exists here and there) is still very dim and at any rate not very influential in decision-making processes of representative institutions and governmental structures. But the need for someone to "represent" the future in the decisions made in the present cannot be overemphasized. Failing that, a growing alienation and schism between the generations is bound to take place.

F. COLONIZING NATURE

Beyond this extension of empathy and identity across regions and over the horizon of time there are still other issues of ethical relevance.

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Man-in-technology has not only been destroying nature and the life chances of his less fortunately placed fellow beings and the young and unborn generations; he has not only created a massive system of dominance, exploitation, inequity and repression through which the human species is divided into opposite camps - all this is still in the area of what man has done to man. But beyond this is also the question of what man has done to other species and forms of life as well as to inanimate nature with all of which he is in fact united through a common organic bond and without whose health and abundance his own survival is at stake. Increasingly man is destroying, almost without bounds, various other species, vegetation, physical and chemical sources of life and the seas and lands whose bounty has been the cause of so much imagination and sense of wonder and joy and creativity. Springing from the unending acquisitiveness of technological man and the decline in his sensitivity to his own kind in other regions and generations and to other forms of life, he has been on a rampage that threatens both the survival of other species and forms of creation.

G. NEED FOR A NEW PARADIGM

None of these issues - the rampage of technology, the severe dualism of the human species, the sacrifice of life chances of future generations, or the destruction of other species and other sources of life and sustenance - were adequately raised in earlier statements by philosophers of the human predicament. The predicament that faces man today includes all this. And the salvation that he must work out for himself - and for the whole of nature along with his own - must address itself to all these issues. In this sense the crisis that he faces is far more total than ever before.

And yet man has shown an almost infinite capacity (in the course of his history) for identifying his own immediate purpose with larger purposes - as I said earlier, he has come a long way from the primeval stage when he identified with just a few kith of his own and cared little for others. Today he is able to identify not only with millions and hundreds of millions that constitute his own collectivity (nation, region etc.) but indeed with the whole of the human species. And even beyond the human species. His capacity to symbolize and identify with abstract entities enables him to think not just for himself or his community or nation or even his species, but for the whole of creation - provided, of course, he uses his capacity for the right ends.

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Nor is this entirely new. In some respects in an earlier age, before man began to use science and technology towards an arrogant and exclusive sense of his own destiny, he had shown a striking empathy and identity with the whole of creation. Intellectual and religious movements both in the East and the West, that led to a deep sense of regard for life in all forms and an abhorrence of violence in all forms including violence to other forms of life (in some societies taking the form of what is now called vegetarianism) had their mainsprings in this innate power in man to symbolize and identify with creation and life as such and to revolt against his own excesses. It is true that in many cases this kind of feeling for life produced a rather quiescent attitude to life's purpose and even a metaphysic that undermined man's confidence in himself, as he ascribed more reality to nature than to himself. But such an attitude is by no means inherent in developing a more holistic view of existence.

Man, then, does have these capacities. Indeed of all the species only he has them - for only he is the abstracting animal, the historical animal, the animal that, through language and memory, can integrate sense perceptions with intricate systems of knowledge and awareness and morality. The predicament that he faces, however, is basic: he needs to move beyond all the structures he has created - territorial, socioeconomic, technological, and in respect of patterns of consumption - and evolve new criteria for human effort and co-operation.

The present structures may have at a certain stage enabled him to overcome strife at lower thresholds of collective being - of the primitive type that he had felt against the menace of an unknown "nature", and unsure as he was of the behaviour of collectivities beyond his own - but which have now become an encumbrance and a menace in turn. It is not as if man must give up all his activities and knowledge and institutional structures and surrender all his achievements and start afresh. Evolution does not ever take such a form. It is rather that our view of the values and purposes that should inform our activities and knowledge and institutional structures must be consciously reviewed, and wherever choices are called for, these should be exercised. Man has the capacity to exercise such choices and he has before him a historic challenge which he can well use to put his house in order. It is best to snatch an opportunity while it poses itself in the form of a challenge - for it may not pose itself in the same form again. May be some small technological "breakthrough" in one field or another will lull him again into quiescence. But we now know that all such breakthroughs

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whether of steel and iron, or of electricity or oil, or of still new forms of energy that are being desperately investigated right now are temporary and cannot take the place of fundamental restructuring of social forms in keeping with basic needs of the human personality.

The point is that every few hundred years a new situation presents itself. And each time it calls for a new understanding and a new paradigm of action. Ours is one such moment in the history of man and the universe. The choices facing this badly divided and increasingly violent world of ours are many. They will have to be fairly concrete - in respect of the world political order, the techno-economic system and its relationship with nature and the opportunities offered by it, the intellectual effort called for, and the kind of development strategy needed for moving from the present structure of dominance, inequity, loss of autonomy and dignity for millions of human beings to a more just and humane world in which both human beings and human collectivities are able to work out their respective destinies in a framework of integrity, balance and harmony.

We have said that every few hundred years a new situation presents itself which calls for a new diagnosis and a new paradigm of action. Now it has been a characteristic of all these situations that they arise out of a sharp division in the human community which threatened its stability and survival. And it was the task of all major intellectual efforts that were stirred by such situations to seek to overcome the division and restore a basic unity among men. Today also we face such a situation.

Indeed, the divisions that face us are sharper than ever: the grim division between the dominant and the dependent nations which also encompasses the division between the rich and the poor and between the urbanized metropolises and the rural peripheries; the division between contending ideologies, which too has become increasingly subtle and sophisticated, but is by no means irrelevant; the division between races that has yet to see its real gravity and violence; and above all the division between an increasingly dehumanizing man and an increasingly de-naturalized nature thanks to our overemphasis on technology. It is a division between man and man, man and other beings, between machine and life, between the grand creations of human reason and will (artifice) and the incessant demands on the biosphere and the environment (nature) - and through all this, in the most primitive sense, between the beastly and the benign, the selfish and the social parts of each being, and between a pursuit of knowledge and science that leads to humility and self-control and the same pursuit that leads to uncontrolled power and arrogance.

III. PHILOSOPHICAL UNDERPINNINGS

Now behind these myriad divisions that seem to permeate modern civilization lies a dominant philosophical doctrine that has had its greatest triumph in our own time with practically the whole world accepting it.

A. THE DOCTRINE OF MODERNITY

This is the doctrine of modernity. The power of the doctrine lies in its simplicity. The aim of life is narrowly defined, hence realizable by all - progress based on economic prosperity. It is to be achieved by the application of inanimate power to the fulfilment of human needs. There is no mystery about it as it is all "scientific". Indeed, there are no mysteries in life as most of them have been uncovered by science; the little that remains would soon be uncovered. All that men and societies have to do is to discard tradition and superstition and become rational and modern. And all they need to learn are the essential techniques by which happiness could be had by one and all. For a whole generation after the collapse of colonial powers, this doctrine held sway over the minds of men and so dazzled national elites that they practically surrendered their hard-won freedom at the altar of the new religion called modernity.

Today that doctrine is in shambles. Not only has the "developing" world discovered that all the enormous noise and fury of development projects and the surrender of national and cultural autonomy in the process has not helped them solve their basic development problems; the "developed" world too has discovered that the path of progress was not limitless and that it was highly vulnerable to pressures emanating from the third world. Hence the contemporary awareness of "interdependence", of the need for co-operation instead of confrontation, of the great concern for the poor and the underprivileged of the world, the growing criticism of the growth-oriented and centralized model of development, the re-examination of not just the strategies but also the goals of development, the growing stress on alternative paths to the future in place of a uniform and homogeneous course for all.

With such questioning and doubt, however, more fundamental questions have emerged. Is it just the limits imposed by conditions of scarcity that has made the paradigm of modernity unrealizable or is it rather that there

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was something fundamentally at fault with the paradigm itself? Isn't the theory of progress as developed in the West, based on an anthropocentric view of nature and a positivist conception of knowledge and science, responsible for a model of development based on domination and exploitation? And if these be the essence of a culture which now must be questioned for its past contribution to human well-being, shouldn't we be looking for alternatives based on the best elements of this and other cultures?

We live in an unstable world. It is unstable not just because the period of Northern domination is fast coming to an end and there is taking place a wide diffusion of political and economic power the full implications of which are not yet clear. It is also, and more fundamentally, because the philosophical moorings of that period have proved shaky and men of thought are engaged everywhere in a search for new systems of meaning and of values, new approaches to power and authority, new conceptions of human identity and cohesion and new bases of containing sources of conflict and ensuring human survival.

B. SEARCH FOR ALTERNATIVES

Increasingly such a quest for alternative systems of thought and being is encouraging intellectuals to explore new paradigms some of which based on other cultures - particularly those known for long-standing humanist traditions, and for integrated perspectives on the human condition. What is the role of the third world in such a quest? Here the picture is not too heartening. Barring a few isolated individuals and small centres of creative work, thinking in the third world is bereft of systematic inquiry into the fundamentals of life. This situation needs to be quickly corrected. It will be a real tragedy if cultures strong in speculative thought and deductive logic were to fall prey to the lure of positivist science imported from the West at a time when the world was in fact crying out for new world views and meaning and value systems. The religions and cultural traditions of the Middle East and the Far East, China and the Indian Sub-continent, among others, should provide major streams of thought that could substantially contribute to the present search for alternatives. But as yet there seems to be little stirring along these lines among the intellectuals of these regions. The fact that these regions also happen to be or could be new centres of political and economic power is no guarantee that they will provide

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intellectual leadership. Unless the intellectuals themselves strive to do so and impress upon the elites of these societies the need for radical reorientation of the goals and strategies of development. Indeed, it could be quite the contrary.

Such striving should be informed by two interrelated points. First, modernity is not something that can be wished away. Both as a doctrine of life and a guide to prudence, and as a framework for attending to the affairs of society, it has shaped our world in a fundamental manner, so fundamental that we so often call it the "modern world". Modernity is not just Western or Occidental, it is part of us all. It has become the dominant tendency and a major tradition for the contemporary world.

Secondly, however, it is incumbent upon us all to relate this presently dominant tradition to other civilizational traditions, and to evolve a process of critical interaction between them. This is crucial. The seminar for which this paper is written is being held at the right time, when the entire debate in various spheres is being reopened, whether in respect of science and the philosophy of science or in respect of more basic relationships in society at a very micro level, in respect of family, ethnicity, sex roles and generational differences. On all these themes the discussion displays a new search, skepticism about earlier formulations, and wide-ranging controversy, often resulting in considerable confusion. So it is extremely timely that we provide ourselves with a wider framework for these various discussions, a framework that weaves together the concerns of science, philosophy, culture and religion from alternative civilizational perspectives. It is to be hoped that the discussions are held in sufficient depth and with complete honesty and candour.

C. SCIENCE AND TECHNOLOGY

Let us make an attempt to initiate such a discussion. There have been in human history diverse visions and perspectives on the role of knowledge in society and its relationship with values and life-styles. What concerns us at the present juncture in man's evolution is the impact of a particular vision that came out of the peculiar European experience following the Renaissance, and getting organized in a particular direction after the seventeenth century and especially after the advent of the Industrial Revolution. What is peculiar about this vision is that the spur to it came from technology and in course of time there emerged what is known as science-based technology or more correctly, a technology-directed science.

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Although in the beginning, as was the case everywhere else, science and technology proceeded on independent streams, one close to natural philosophy and the other to practical craftsmanship, gradually a myth was created that science and technology were part of the same enterprise, an enterprise that was "modern" and "rational" and which promised perpetual "progress" for mankind. Thus took place what may be called an unholy marriage between two traditions. Why did this happen? Why did science take on an increasingly technological character, judged more by its use-value than by its truth-value?

D. CULTURAL CONTEXT

The answer to this must be found in the cultural location from which both modern science and modern technology emerged. It was a culture that treated knowledge as an instrument of power, as an instrument of domination over sinister and unpredictable forces of nature, and later over social forces and institutions, and ultimately over relations between societies and between cultures and races. This peculiar scientific worldview needs to be understood and can be understood only by reference to a particular cultural context.

So it is not so much the impact of something that has run amok, namely modern technology, but rather a historical process of a fundamental kind which has led to the domination of one particular culture on all others, through the mechanism of science, and through the view that this particular science was "universal" and hence valid for all as well as beneficial for all. It is essential to come to grips with it, we may be better able to alter the course of modernity, not necessarily rejecting everything but rather changing the internal relationships that govern the field of knowledge as well as the interrelationship between knowledge and society. And as we do this we may be able to rediscover traditions of science and the pursuit of knowledge that are at the moment submerged. And similarly rediscover technological traditions from other parts of the world.

E. OTHER TRADITIONS

These other traditions of science have had long centuries of history and development and are still available to draw on. In the countries of Asia there are very strong traditions of science, as well as of technology, which at the moment are submerged under the dazzling impact of modern science, but which are gradually becoming highly relevant. For example, in ancient China, India, Arabia, Persia and Indonesia, there were important traditions of

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science and technology. What is common to all of them is the thinking that science is basically a search for truth, a means of self-realization and self-control, not a means of bringing anything under domination including nature. Similarly there are traditions of technology and a great deal of work is going on in the last few years on discovering these traditions which somehow, because of their tenacity and continued utility, have survived in the folklore and in the folk practices of our peoples. There is need to rediscover these in the spirit of intellectual inquiry.

F. TOWARDS A HOLISTIC PERSPECTIVE

One other characteristic of these traditions of science as compared to the latter-day Western traditions of science is that knowledge and the pursuit of truth were followed in a holistic way, not as a specialized activity. These traditions represent a holistic view of both science and culture not science as a discrete activity and culture as another discrete activity, with further fragmentation and specialization under each. They regarded science and culture and various activities under each as facets of the same phenomenon. It is this very comprehensive view of creativity and thought, of science, culture, philosophy, art, technology, economics and politics that intellectuals are seeking today in this world of extreme division of labour and the condition of alienation and neurosis that it has produced. The act of creation and the pursuit of truth are inseparable. The modernists have introduced a dichotomy between science and technology on the one hand and philosophy and art on the other which is most unfortunate. There is need to restore the comprehensive and holistic perspective which was there before and which still survives in many cultures but is at the moment submerged.

Today the Western world is uneasy with its own traditions, with some people looking for some magic answers from the East. It is a very opportune time for us to reinvestigate and re-establish these traditions and to relocate the place of knowledge and action in them. In saying this it is important to have a modest view of what man can do, and a modest view of rational knowledge. One of the biggest maladies that the modern age has brought in its wake is to put knowledge on a pedestal. Never before had men of knowledge, which in the modern age means men of science and technology, acquired such a command over resources and over the decisions that would affect generations to come and cultures and civilizations far outside the place where decisions are made as well as other species and indeed the whole

of creation - all in the name of knowledge. It is necessary to return to the tradition of knowledge that conceives it as part of a larger process of self-realization, a larger process of realizing certain values.

In the West too this search is on. In fact, perhaps it is more on there than here. There is evidence to suggest that at a time when within the West leading intellectuals and scientists are raising a banner of revolt against the dominant perspective, the elites in the third world are becoming extremely enthusiastic followers of it, seeking out the mythology of modernity, and becoming keen purchasers of the commodity called "technology" and the commodity called "science". We face a very difficult time ahead in this region and other similar regions, a time when one of the main tasks will be to persuade the decision-makers to move away from the suicidal path on which they seem to be moving relentlessly. This calls for an organized attempt on the part of the custodians of social conscience all over the world to raise the fundamental debate to stimulate a serious rethinking.

IV. THE POLITICS OF DEVELOPMENT

Such a debate will need to be fairly concrete. It should in particular draw attention to the political repercussions of the "modern" path of development. It is a path that has not only produced a more and more wasteful civilization; it has also given rise to a global structure of political and economic power that has become increasingly iniquitous and conflict-ridden. It has led to a bottling up of world resources in heavy concentrations of capital and machinery located in a few centres that have no relationship to the real needs of human beings. On the contrary, they have given rise to a techno-economic process that has rendered millions of human beings - including in the industrial centres - obsolescent and redundant and have greatly eroded resources and opportunities that could have sustained productivity in diverse human settlements.

A. PERMEATION

Such a structuring of power and resources has permeated the developing regions as well. The prevailing model of development has ushered in wasteful ways of human consumption not merely in the rich, highly industrialized, "developed" North; they are also to be found in the poorer, less industrialized, "underdeveloped" South. Two consequences have followed: domination of the nations of the South by those of the North, and within the nations of the South, domination of large masses of the people by small privileged, mainly urban-based and modernized elites who are more closely

tied to the metropolitan centres of the world and the experts and financiers of transnational corporations and lending agencies than to their own peoples. These elites are even more wasteful and given to consumerism than their Northern counterparts whom they seek to emulate and they are certainly far more responsible for producing structures of inequity and exploitation in their societies than is the case in the North. This is not by any means to underrate the fact that the root of the contemporary patterns of inequality in the world are to be found in colonial and neo-colonial forms of dominance. But it is necessary to see that these forms have penetrated - or reinforced - the social structures of the colonized countries themselves.

B. MISLEADING DIAGNOSES

The problem of persisting underdevelopment and glaring dualism between the rich and the poor nations - and, as reflection thereof, between the rich and the poor in the poorer nations has been sought to be explained by reference to a number of misleading diagnoses. Among these are increase in population size of the poor, lack of motivation among the people of backward lands, decline in "aid" from the rich nations, transfer of resources from development to defence in the developing nations, regional, linguistic and ethnic divisions in the latter, and so forth. None of these, however, seem to us basic. They are either (like population growth) symptoms of more basic causes or (like the alleged lack of motivation among the poor) wholly misleading and wrong, arising from the prejudices of scientists and social scientists and the search for alibis by people overcome by guilt but not willing to accept responsibility for basic injustices in the world.

C. BASIC ISSUE: LIFE STYLES

The primary cause for large areas of underdevelopment and inequity is to be found in the global structuring of the man-resource relationship in which a minority of nations has, in pursuit of a parasitic and wasteful style of life, shored up a large part of world resources. The spread of the same style of life among the elites of the countries of the third world has also meant that they remain divided, both within each of them and between them severally. The result is that most of these elites have failed to exert themselves at regional and world levels (except in endless rhetoric) and have also failed to pursue policies within their own countries that are called forth by their socio-economic, demographic and cultural conditions which happen to be quite different from the conditions that obtained in the richer nations during their respective phase of development. Instead,

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they (or most of them) are found to indulge in a rhetoric of confrontation, both at global and at domestic levels, and to seek alibis for their failure to restructure a world in which they happen to be in a majority.

This in effect means that the richer segments of both "developed" and "developing" nations continue to indulge in life-styles that result in perpetuating global inequity, depleting world resources and unsettling nature's fine balances. In sum, due largely to the inimical consequences of modern technology, the dominant economic model that has resulted from it and has been accepted almost universally, and the politico-philosophical underpinnings of this model by a "theory of progress" that had stemmed from the presupposition of infinite expansion of nature's bounties that could become universally and equitably available, the world is being ruled by elites that are incapable of handling the problems confronting it.

D. INTELLECTUAL BRAINWASHING

The causes underlying all this are largely intellectual: if the world is "structured" in a certain way politically, it is because the thinking that has dominated the world for the last hundred years and more has been faulty. These have been the years that have been dominated by the idea of a uniform and homogeneous end product to be achieved by all societies - a state of urban, industrial affluence, managed by experts at the top, and backed by a capital-intensive technology; in short, the model of an all-encompassing modernity. Even today, despite decades of misery and exploitation engendered by this model, the notion of catching up with those who are seen to be more "developed" and along the same course continues with uncommon persistence. To no small extent this persistence, which is based more on institutionalized interests of a few powerful people than on conscious deliberation by the large majority, accounts for the general scenario of inequity within societies and a state of myopic dependence between them. Underlying all other erosions - of resources, of cultures, of equity - lies the psychic erosion of the human mind in large parts of the world. Any attempt to undo the inequity and dualism of the present world must begin by undoing the intellectual brainwashing that has taken place under the impact of the modernist doctrine of development.

V. SIGNIFICANCE OF THE ENVIRONMENTAL PERSPECTIVE

The concern with "environment and development" is significant only in this larger political context of growing inequity and dualism in the world

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and the intellectual necessity of redefining the whole purpose of development. It is significant in terms of seeking an alternative model to the one provided by the doctrine of modernity. And it is significant in terms of a conception of development that is based less on specialized concerns of experts and aggregations thereof and more on something that is at once more comprehensive and more accessible to all human beings. Finally, it is significant in so far as it promotes a view of human welfare that is based far less on some linear progression through some uniform pattern and far more on seeking autonomy and self-reliance in a variety of local contexts in which everyone participates on the basis of firsthand knowledge of concrete conditions.

A. BASIC APPROACH

On environment too there are many expert studies and, of course, much to learn. But the more fundamental insight that has emerged from all this work and one that informs the work of leading exponents of this particular cause is the one that combines these four concerns: (a) a holistic view of development, (b) a concern with equity based on autonomy and self-reliance of diverse entities instead of on a structure of dependence based on aid and transfer of technology with a view to "catching up", (c) an emphasis on participation, and (d) an accent on the importance of local conditions and the value of diversity. The import and implications of this perspective are just the opposite of the import and implications of the perspective of modernity as an all-embracing end product for all. Seen in this manner, the "environmental perspective" is no more nor less than an alternative perspective on development based on the norms spelt out above. Specific aspects of the sustenance and improvement of the environment can of course be studied in specific contexts and these may involve a series of technical tasks. But these are precisely the tasks that are involved in moving towards alternative patterns of development and life styles based on a conception of human needs and of social and economic goals that could ensure a sustained improvement in the quality of life in all regions and a just and equitable international order.

B. DEADLOCK

It would be a gross mistake to think of environmental concerns facing the world out of this larger political context. Such an approach would unnecessarily counterpose environment and development and make the former appear as anti-developmental to one set of people and the latter as necessarily an encroachment and nuisance to another. Such suspicions already exist and the principal reason for them is the tendency to treat different aspects of

world development as discrete and independent dimensions. This has given rise to aggressive pessimism of the conservationists and an equally aggressive restlessness of the developmentalists. There exists at the moment a virtual deadlock on this issue with little sign of a breakthrough. And the problem is compounded by the fact that the conservationists are identified with the North and the developmentalists with the South.

C. IRONY

The irony of it all is that the conservationists come from the region where the development dogma (based on the doctrine of modernity) originated and the developmentalists come from regions which have traditionally taken an integral view of man and nature and are even today better equipped to pursue an "environmentally sound" development path. The irony can be explained only by reference to the fact that the incessant pursuit of modernist development by Northerners over centuries has had gruesome economic and political consequences for the Southerners who are so possessed by the need to quickly undo global disparities that they fail to see that they will never realize their goal if they pursued the path laid out by the North. If they want to succeed, they must reject this path and once they do that some of their best friends will be among the environmentalists. The environmentalists on the other hand need to make common cause with the exponents of global equity and a new international order and to conceive of environment as providing a series of opportunities for pursuing a new development path rather than a series of constraints. Once conceived in this way, environment too becomes a resource - in fact the most basic of all resources - for development. With this will end the impression of an adversary relationship between the two.

D. NATURE OF THE PRESENT CRISIS

More concrete analysis will make these points abundantly clear. The basic scenario underlying the crisis facing the world can be stated quite simply. Arising out of massive poverty in large parts of the world, growing disparities between and within regions, worsening terms of trade for poor countries and for rural areas within them which further widen these disparities, and corresponding increases in dependence and a decline in real freedoms, there is evidence of rising discontent and restlessness among the poor of the world producing in their wake political instability, growing incidence of tension and violence, and consequent insecurity among elites as well as among powerful nations all of which is increasingly endangering peace at both local and regional and international levels, leading to an increase in repression and

arms races of various kinds, and converting the whole world into a garrison state. This is hardly a scenario in which the real causes of the crisis facing the world can be attended to. And yet so grave is the crisis and so interwoven are its various elements that it is only by getting to the root of the problem and dealing with it with a clear head that a major breakthrough can be achieved in the human condition, a steady and sustained process of fulfilment of values and aspirations pursued in diverse regional and cultural contexts, at least minimum levels of satisfaction and confidence achieved in various centres of the world, and on the basis of all this, a more stable basis found for international peace and co-operation.

What then is the "root of the problem"? Without going into historical and philosophical issues (some of which have been touched upon in earlier sections), it is clear that underlying both the general historical process that engendered the phenomenon of underdevelopment and the persisting, and in some ways accentuating, states of inequity and poverty in our own time is the dominant model of development, emanating from the West, a model based on the doctrine of modernity, the theory of progress, a manipulative view of science and a hedonistic view of human happiness.

E. CRUCIAL ASPECT

There are many aspects (cultural, technological and political) to this historical process which cannot all be dealt with here. But the one that has proved crucial in bringing about the present state of affairs is the growing conflict over the access, distribution and direction of world resources for maintaining and raising standards of consumption and life style that have been achieved by the urban middle classes in the industrialized world and, through emulation or prompting, by the middle classes everywhere. So powerful has been this model of a high-consumption life style that it has undermined both the Liberal dream of expanding welfare for all and the Marxist dream of solidarity of the world proletariat ushering in an egalitarian, classless society. For inherent in the maintenance of this life style is access to and hence control over energy and industrial raw materials and this necessarily involves growing inequality - between rich and poor countries, between the tiny middle class and the large unorganized masses in the latter, and between the proletariat of the rich countries and the proletariat of the poor countries.

Inherent in such a model of development based on inequity at various levels are many other distortions of our time - the conception of the global economic process as a homogeneous whole, the consequent need to turn formally independent countries into economic colonies, the strident safeguarding of differential advantages of the industrialized countries through all kinds of trade barriers and simultaneous pressure for assuring both the supply of commodities from the third world and markets therein for sophisticated consumer goods and gadgetry. For all this it becomes necessary to spread the culture of consumerism globally and at the same time contain and confine the capacities of newly industrializing countries within narrow technological limits; hence the crucial role of the transnationals. Above all, there is the increasingly global sweep of economic diplomacy for ensuring enough surpluses from the world countryside for meeting the growing demands for resources of the metropolitan centres in the face of fast growing populations in the third world which is bound to put some brakes on the traditional export orientation of their economies. Similar pressures and distortions follow from the effort of the urban middle classes in the third world to retain their living standards.

F. INEQUITY

The sum total of all these pressures for preserving the economic advantages of the already advantaged is an accelerating pressure on world resources which in turn produces a structure of inequity, exploitation, erosion of local autonomy and self-reliance and denial of basic necessities to the large majority of the people of the world all of which is inherent in the present development model based on relentless consumerism.

It is the same ethic of consumerism that erodes environmental qualities too. In fact the environmental erosion entailed in maintaining these life styles and concomitant modes of production, technology and land-use and settlement patterns in various parts of the world is such that it is becoming increasingly difficult to provide for a lasting eradication of poverty and a sustainable improvement in the quality of life and levels of living of the world's poor and of future generations. The present patterns of development are so wasteful and destructive of natural resources - land, water and entire ecosystems - that they are producing an increasing and exponential growth in desertification, deforestation and soil degradation which are leading to an over-all erosion of the productive process itself - and most of this in the developing countries.

G. RELEVANCE TO DEVELOPING COUNTRIES

Those who think that environmental erosion is largely a problem for the industrialized countries are quite off the mark. For increasingly the reverse is taking place. Even pollution which was supposed to be confined to industrialized countries is increasingly being "exported" to the countries of the third world. And pollution is but a minor aspect of the environmental problem, the more important aspects being depletion of renewable resources at a rate faster than their regeneration alongside exhaustion of non-renewable resources, a rising rate of withdrawal of marginal land from productive use thanks to biological degradation and desertification, and many other forms of decline in productivity arising from application of alien forms of technology and the systematic undermining of indigenous traditions and skills that were suited to local conditions. Such intrusions into the local environments and their self-sustaining quality have not only increased disparities within and between regions but also increased dependence all over - of the countryside on the cities and of entire countries on outside forces - in the process undermining local self-reliance and participation of local communities in decisions that vitally affect them. Environmental erosion is thus no more than a physical and ecological expression of the over-all erosion of societies wrought by development patterns fostered by consumerism.

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the potential of each locality. The scope for such potential is quite extensive once the drainage to the outside world dictated by present patterns of development and decision-making are brought under control. This involves maximum reliance on renewable resources, regulation of the speed of such resource use, and recycling of resources within the locality. In point of fact, resources available within a local environment are more in tune with the requirements of the area and most of these are nature's free gifts which do not lend themselves to outside controls except when a society surrenders its options under the hypnotic sway of imported models. This also implies that the conception of alternative development is itself not uniform though it is certainly informed by certain norms and the historical context (on this more later). Plurality is in-built in this view. It is thus a conception of alternatives.

C. SELF-RELIANCE AND DECENTRALIZATION

The need, then, is for greater self-reliance in every locale, optimal utilization of nature's resources for productive use at decentralized levels, and the orientation of scientific effort to the problems of the common man. Only thus can Gandhi's vision of production not only for the masses but also by the masses would be realized.

D. DEVELOPMENT AS LIBERATION

Such an approach to development, once implemented, can have far-reaching consequences. It would be the best insurance against drainage of resources to the affluent areas and would stop the shoring up of world resources by a minority of nations. Within each country, it will improve the terms of trade between agriculture and industry, and between rural and urban areas. And within the village society too, once the drainage of resources and the perversion of institutional structures and information flows due to rapacious technology are brought under control and the traditional understanding of nature's life-support system is allowed full scope, there will be less scope for exploitation and greater scope for equitable relations and more broad-based participation of the people in the productive process. The new development pattern, in other words, involves a whole chain of liberating effects - from the country as a whole to the last man in it - and makes it possible to tap the vast potential that nature can

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VI. APPROACH TO ALTERNATIVES

It follows that the movement towards an alternative model of development should apply to all regions of the world, "developing" and "developed", and that it should combine in its framework both a sustainable process of (a) development through continuous regeneration of renewable resources, and (b) a reduction in resource and income disparities between and within regions. Such a symbiotic relationship between environmental and socio-political goals is inherent in the conception of an alternative pattern of development. In what follows we shall spell out a few basic postulates.

A. REMOVAL OF POVERTY

The goal of development at the present time should be, first and foremost, the removal of poverty, not a mere increase in national product which more often than not leads to wasteful consumption by elite strata with little or no benefit to the poor. Now, removal of poverty entails a series of sub-goals such as removal of disparities across regions, between cities and the rural areas, and between the rich and poor within each sector as well as between the present and the future generations. Even this is not enough. There is need to direct development categorically for the benefit of the poorest strata, abnegating the dictum that inequality and income differentiation are inevitable in the process of growth. All this involves a different approach to technology, resources and the environment. Removal of poverty is not possible under conditions that denude basic resources of nature to which the poor had always had access and for which they did not have to depend on institutionalized decisions. There is need, therefore, to move towards a model of development that has the potential of providing prosperity with utmost equity and in harmony with nature (i.e. by preserving its resource base for sustained development for all classes and for future generations).

B. EQUITY THROUGH LOCAL SELF-RELIANCE

Development for equity entails primacy of local development and an end to external dependence. In the existing pattern of development the villages are dominated from outside the locale, the society as a whole by a class of technocrats and entire nations by global purveyors of technology and power. The goal of development should, instead, be an actualization of

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provide but which has been held back from the people for so long. Environmentally, such a pattern of development opens many doors. By minimizing the use of depleting assets, it preserves resources for underprivileged groups in the present and for generations to come in the future. By promoting a use pattern that is in consonance with nature's principles (such as recycling and symbiosis), it promotes health and wellbeing and controls pollution. By enabling a diffuse pattern of resource-flows, it enables man to escape centralized control over life's basic needs. In short, it becomes the catalyst of a genuine alternative to Western-style industrialization and the harbinger of a non-elitist path of development for all.

E. ENDOGENOUS SCIENCE

Such a model of development aimed at removal of poverty and disparities, equity between and within regions and generations, local self-reliance, decentralization and people's participation will necessitate a redirection of scientific effort itself. It calls for not only the "regeneration of villages" that is much talked of but also the regeneration of science. Under the present model of development the main emphasis is on taking technology to the villages, almost in the same vein as the much talked of "transfer of technology" to the developing countries, in both cases the presumed beneficiaries being treated as passive recipients to whom a set of standard techniques and practices, evolved in some advanced country or institution, are to be doled out. That this is repelling is obvious. But it is no less obvious that it has gone on for a pretty long time now with deleterious consequences to both the autonomy and the wellbeing of millions of people. What is called for now is a radically different approach, making villages the bastions of scientific inquiry and doing this more in the spirit of learning the mysteries underlying traditional practices of recycling and the endless web of interrelationships between diverse land systems, water resources, plant resources, animal and bird species and other elements in the rural ecosystem.

F. NEW ROAD TO PROSPERITY

Once such a spirit of learning develops, it will become possible to draw upon the rich potential of biotechniques based on nature's principles. It will then become possible to avoid rapacity and at the same time promote prosperity and wellbeing. This can be done by an in-depth study of each component of a specific environment - its air, water, soil, the plants, animals and other living elements in it, and interrelationship of these all. Knowledge of these various processes provides scope for not just an equitable and decentralized pattern of development but, through it, for continuous improvement in the quality of life of all strata of the people. It is essential to restore the original symbiosis between science and nature which has been disturbed by science becoming an instrument of exploitative technology to which we referred very early in this paper. The approach proposed here also corrects another mistaken notion, namely a negative view of the environment as something that imposes constraints and "limits". While certain constraints must be respected, as they are based on real facts, there are also immense opportunities for growth which too are provided by the same environment. Garnering such opportunities should be the task of science.

G. APPROACH TO NATURE

The new approach to science and to development suggested here is based on a certain perception of nature and man's relationship to it. The presumption that the role of science was to master nature and yield it in the service of man has turned out to be an illusion. It was, in turn, based on a view of science itself as an instrument of man's power over nature and over other men. This must give place to the original purpose of science, namely understanding the processes of nature - the opportunities it provides as well as the constraints it imposes - and on the basis of such understanding, the planning and development of a given area. Such an approach will make for a partnership between science and nature (instead of an adversary relationship as is the case at present) and in turn - and this is equally vital - between the scientist and the villager. There is a vast area of research and development that lies ahead in this field. But it will need to be based on a different philosophy than the one that usually informs R and D establishments. The scientist will have to take on a more

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modest role - as a participant in a total system of relationships. As was stressed earlier in this paper, one of the basic postulates of an alternative model and philosophy of development is to treat life as a whole and not in fragments. This calls for a perspective on science that is characteristically more Oriental than Occidental.

VII. ENVIRONMENT AND DEVELOPMENT IN ASIA AND THE PACIFIC

This may be a good point to move to an exemplification of the postulates of an alternative perspective on environment and development in the specific context of the Asian and Pacific region. Of course, almost all the references to the third world made in the preceding sections hold in the case of this region; conversely, many of the points made below will have relevance to large parts of other third world regions. It would nonetheless be instructive to illustrate and exemplify the general issues already raised in the specific context of this region, among other things because many of the points made above become more forceful when applied to this region. The population one deals with is much larger, the baseline of poverty in large parts of the region more abysmal, the extent of disparities in the region more striking than, say, in the other major developing regions, and the agro-climatic conditions poorer than in more temperate lands. On the other hand, there are rich traditions in the Orient to draw upon, some rather fundamental and original thinking in the recent past, and a background of philosophy and metaphysics that may be more conducive to austerity and self-control in life styles once the need for them is demonstrated and external influences are submerged in a new search for identity and potency.

A. AGRICULTURE

Particular mention needs to be made of the technology which has come to be encouraged in agriculture. The use of chemical fertilizers and pesticides upsets the chemical balance of the soil, interferes with nature's own process of recuperation and destroys the biological property of the soil by killing those micro-organisms in the soil, which Charles Darwin called the builders of civilization. Even in the cold and temperate climates, where nature has provided better conditions for preservation of soil humus, the non-specific use of these chemicals is harmful. Their effects are far worse for a tropical country where high humidity and high temperature lead to quick decomposition of soil and organic matter. The orientation to

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this technology has also blinded us to the compensation nature has provided the tropical countries in the form of lush vegetative growth - e.g., water hyacinth, ferns that harbour nitrogen-fixing algae, tropical legumes like the winged bean found in Papua New Guinea and south-east Asia - which can be used to replenish the soil humus, provide rich manure and possibilities of intercropping (e.g. with legumes which yield proteins and fix atmospheric nitrogen), act as solvents of toxic effluents, as well as deodoriser, purifier of water and as sources of methane for lighting homes. If the present technology is allowed to continue, the productive lands blessed with such gifts of nature will be reduced to dust bowls, the streams polluted to stinking sinks, and the food chains - from micro-organisms to plants and animals - will be poisoned with chemicals.

B. INDUSTRY

In the industrial sphere, the focus so far has been on economies of scale and return money capital rather than on creativity and productive employment of men and development and sustainable use of local natural resources. The drive is towards making the production process more capital-intensive whose benefits remain beyond the reach of most. Inherent in this is the concentration of production as opposed to diffusion of initiative. And the concrete result of this over-all industrial-agricultural production system is that there is no solution for the unemployment problem, even at the present population levels.

To tackle the problems of poverty and unemployment, the need is to explore techniques which would have a liberating role, that is, which the large-scale industry or the rural rich will find it difficult to control and which, on the other hand, will release the potential for greater opportunities of income and employment generation. This requires, in the first instance, a deep understanding of the physical laws, the life-support system of the planet, and the interactions of the components in each micro-environment. The deeper our understanding of the life sciences, and the less our dependence on the shortcuts provided by chemistry, the simpler and less expensive will be the techniques.

C. THE TWO COMPARED

One of the effects of the doctrine of modernity is to discount agriculture in comparison to industry. This is fundamentally unsupportable. Agriculture is production of wealth from the bowels of earth: it is renewable. Industry, on the other hand, often involves extraction of a depleting resource

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and its processing into a more usable form. There is, therefore, no comparison between the two: the former is more basic to the wellbeing of the people. Moreover, in future, as the costs of air purification and water purification come to be borne by the industry, the resource to large industry will be relatively less.

D. QUESTION OF SIZE

Certainly, this does not mean that large industry, or even the heavy industry, will need to be scrapped. The solution is not to cast out a technology altogether. A change in social institutions can hardly be successful unless it achieves a large measure of connexion between the new and the old. As alternative technologies grow, the incidence of the existing technologies will get reduced. All the same, efforts will have to be made towards reducing the ecologically harmful consequences of the existing exploitative technologies by suitable modifications. In this what really needs to be restrained is the ideology of industrialism which seeks to build a large industry to feed another group of large industries and so on. In this spiral, an industrial island gets built up which neither supports, nor is supported by, the life of the masses. That is the way to an enclave society which never lasts.

For a stable participatory and humane society, small-scale industrial units should exist in ubiquity; and the medium industries should spring up wherever the need is felt. There would be need for large units as well. But these will have to be under more rigorous social control. Here, one major difference from the present pattern is called for. Whereas the present-day orientation is more towards the large, the new approach would require the large as a last resort, to perform specifically these functions which smaller scale units cannot perform and which nevertheless have to be performed for the wellbeing of the society.

E. ENERGY

Associated with the revival of interest in agriculture and organic fertilizers, is the increasing emphasis on recycling of waste through use of cowdung, composting of human excreta, gobar gas plants, dry toilets etc. All this is to be welcomed. For the health of tropical soil greatly depends on the return of waste products to the soil in an assimilable manner. But the technology of recycling can be extended much further, including water, wind and the sun. These are called renewables because these are being continually recycled. The technologies of irrigation and generation of
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hydro-power, wind power and solar power come under this category. A thrust is needed now for advance into these technologies.

In recent years, hydro-power has been receiving greater attention than earlier. But the initiative for micro-hydel projects is lacking even now. In China and several European countries the generation of hydro-electricity in small-scale projects has been a vigorous activity for a long time. We need to shed our attitude of dependence on the distribution systems of the large central power plants in the rural areas.

Wind is more readily available than falling water. Even the industrial nations are now recognizing that there is considerable benefit in "harking back" to small-unit wind power technologies. With renewed interest in this ancient technology, ideas which had not been fully explored earlier, will certainly be revived. Thus, in both hydro-power and wind power, the traditional technology and the latest understanding in life sciences get linked up.

F. SOLAR POWER

One distinct feature of solar energy (as with wind power) is that it is pervasive and diffuse - hence more suited for decentralized production and use. When efforts are made to make its production highly centralized the capital investment requirements become very high. This is the reason why the United States commercial firms are finding that the array of equipment needed to obtain solar energy is far more expensive than the equipment used to obtain energy from coal.

Most parts of this region receive high-intensive, fairly uniform sunshine for ten months of the year. The scope of harnessing solar energy is, therefore, great. But the basic condition for making solar energy part of an alternative pattern of development has to be brought within the reach of the common people.

G. FORESTS AND TREE COVER

Solar power generation and solar engines-and-pumps are two aspects on which useful research is under way. Photosynthesis, however, is by far the most efficient means known to mankind for tapping the solar energy. This means that the trees will have to be a major means of meeting the energy requirements of villages. The reasons why many people now shudder at the thought of felling trees is that for decades we have, in our rapaciousness, gone on denuding tree-lands without caring to regenerate. We have to atone for this sin by: (a) building a permanent forest belt in all dry

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areas and wherever high-velocity winds are prevalent; (b) bringing every bare hill under a protective vegetative cover; (c) raising mixed forests of grass, fuel trees, and trees for production of leaf fodder and fruits on wastelands; and (d) scientific forest management of the conserved, that is, natural forests. The energy plantations suggested here are in addition to these. For this, the fuel-wood trees have to be on village commons, boundaries of fields, on lands lying on the side of the roads and railway lines, on banks of canals and ponds, as also on other available sites. No doubt, these trees will have to be of the fast-growing species.

When the pressure of people on land is tremendous, it is undoubtedly difficult to secure the release of lands for afforestation. This will be a test of the leadership. Leaders will have to promote a social awareness to the effect that while it is essential to provide for the daily necessities of the people for fuel, it is also essential to protect and multiply reserves of forests and village commons, because these serve the common purpose of the society in respect of soil conservation, water preservation, lessening of drought and flooding, protection of environment and sustained supply of energy.

H. WATER

Nature provides a balance in every micro-environment. There has to be a balance (and a process of recycling) between land and water, both at the surface and subsurface levels, and in every locale. In our distorted concept of modernization, we have in most places extended motorable roads, in a manner which has partitioned the canals and choked their flows. As a result, the seepage effect of the canals has stopped and the underground water table has gone down in the neighbouring areas. The canals in the past were interconnected as a means of travel and commerce. With the drying up of canals, what we in south Asia call the dinghies (transport plying in the canals) are disappearing. It is not merely the canals. In south and south-east Asia many of the rivers, too, have got silted up in large parts. These cause floods during the rains and limit the scope of inland waterways. Rejuvenation of these rivers is a must for irrigation, flood control, and a network of inland waterways. Lack of conscious effort in this matter would in a few decades endanger the very survival of entire communities.

I. EMPLOYMENT

The specific tasks facing poor countries in the region are thus many. But they are all to be informed by one idea - protection and restoration of the resource base whose erosion can endanger the prospects of improving living conditions. Attending to these tasks, however, can generate massive employment which is the crying need of many countries in the region. Indeed, by redirecting the emphasis of economic development from per capita incomes (which is no more than a statistical abstraction) to employment generation, development of the type recommended here can be pursued without sacrificing future production potential and undermining resource base of these societies; indeed these will get enriched.

J. NEW ORDER

It is precisely this type of development that can release man's initiative for a new order of production "for the masses and by the masses" as well as a new order of civil society based on equity and local self-reliance which can generate a sense of sharing and of participation, and a feeling of communion with nature on the one hand and science on the other.

K. GANDHI AND MAO

The last point above is of utmost importance. One reason why the concept of equity has not led to concrete results is the lack of scientific backing for it. There is at present a virtual divorce between political philosophy and scientific striving. As a result, outstanding thought from this region such as Gandhi's conception of self-rule for the poor and Mao's non-elitist path of development have failed to gain long-term acceptance even within their own societies. While lip service is paid to their ideals, the State in their respective societies has placed overwhelming emphasis on centralized control of the economy, in the process breeding a power elite. Similarly, Karl Marx, whose name moves millions in this as in other regions and who is known as the prophet of equality, had dreamt of doing away with centralization of all power as well as the distinction between town and country and between manual and intellectual labour. Yet he too had failed to question the technological centralization involved in modern industrialization; all he advocated was that the means of production should be owned and controlled by society.

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In both capitalist and socialist societies the whole emphasis of scientific thought has been on social management, not on basic processes of nature. Yet it has become abundantly clear in the thinking of leading scientists themselves that social organization must seek consonance with processes of nature, not abjuring intervention as such but making each intervention maximize nature's operating principles for the benefit of man. The most significant of these principles is diversity which entails locale-specificity in resource management and hence a diffuse and decentralized process of decision-making in the spheres of production and consumption and thus in the determination of surpluses and life styles.

It is not that Gandhi, Mao and Marx were wrong in their philosophy. It is rather that they or, in the case of Gandhi their followers, pressed a wrong and outmoded science in realizing their ideals, a science that no honest scientist could accept as real. The task that faces these societies now is to redirect scientific effort in the service of the ideals of Gandhi and Mao. This calls for a different conception of the purpose of science than that associated with modernization. To the "modernist" mind, science like all knowledge is an instrument of secular power for creating a good social order. We must reject this as both dangerous and inadequate. It is dangerous because power as the end of knowledge usually degenerates - irrespective of "isms" - into the power of the few over many. It is inadequate because the creation of a good social order can be no more than a means, the end being the liberation and self-realization of each being.

We come here to the Oriental conception of knowledge as a means of seeking truth which in turn is a means towards liberation of the self. (In Oriental thought truth is not an end in itself.) This is a conception in keeping with the conceptions of diversity and decentralization. Provided, of course, Gandhi's basic principle is remembered. It is that such liberation is to be of all individuals, not just of the educated and the better-off. Indeed, for him it should begin with the "last man" first. This is the basis of a just and equitable society. Such a conception rejects the dualism inherent in the Western paradigm and seeks the ends of the individual as well as of society in a composite philosophy of nature. With this also, incidentally, disappears the discord between society and ecology.

VIII. TOWARDS A FRAMEWORK OF POLICY

We have in this paper considered in some detail the historical and philosophical background of the development problematique of our time as well as a perspective on alternative development approaches, both generally and in the context of this region, with necessary allusions and exemplifications of a specific kind wherever necessary. We may end the paper by translating this exercise into a set of policy perspectives for an alternative pattern of socio-political and techno-economic development in the Asian and Pacific region. We shall do this in a broad and comprehensive developmental framework which should, in our conception, provide the main orientation of the environmental perspective. We have discussed the specifics of this perspective in some detail in the last two sections. We shall now try to embody it in a set of alternative development strategies. We think this is vital if the environmental issues are not to get isolated from the main thrust of the development debate in our time. It is also widely recognized now that changes in social structure, basic concerns like education and health and institutional parameters of a desirable course of development are all fairly central to the environmental perspective. It is to this over-all policy framework that we now turn.

A. BASIC STRATEGY

We shall begin by focusing on three major facets of a basic development strategy.

1. Life styles

While retaining a good deal of diversity of a cultural and individual kind, there is need to have a consensus on such matters as desirable and undesirable consumption standards, use and distribution of resources for the gratification of needs, and norms for minima and maxima in incomes and wealth.

2. Organization of space

There is a need to stop thinking of "rural" and "urban" as separate sets of entities and to think of them as a continuing structure of city, town and countryside, of agriculture and industry, of hinterland and metropolis. The need is to think in terms of a social continuum in which, while the romantic utopian dream of village self-sufficiency may be left behind (there should be no regret about this for such a system had very many negative features), we

may also be able to avoid the scenario of huge metropolises draining the resources of the countryside in a parasitic manner. The scenario to work for (with the exception of city states) is one in which the country is studded by a few thousand localities (regions), each clustering around a medium-size town, sharing in its amenities and its economy in a relatively egalitarian manner, in which all strata of society gain from the benefits of development but avoid the ills of modern consumer societies that are prisoners of highly concentrated production complexes.

3. Production system and technology

Such a structuring of space will need to be supported by a corresponding continuum of productive orientations and technology relevant to each of them. The strategy that will have to be evolved will need to be integral to the development of a country as a whole - where both production and administration are decentralized to medium-sized towns and their rural hinterlands, where city growth rates are prevented from becoming grotesque, where employment opportunities in agriculture (which have some natural limits) are supplemented by employment in small and widely diffused industries, where educational institutions are located close to jobs and restructured away from the present emphasis on university degrees and towards widely scattered training institutions based on short-duration courses for middle-range technicians in various walks of life, where health facilities are not limited to the privileged, and where the economy derives its strength from the purchasing power of the great numbers of the people and not from the expansion of middle-class consumer industries and their "export orientation". Implied in such a restructuring of rural-urban and agricultural-industrial relations is a new techno-economic model. The new emphasis on rural development in a large number of countries in this and other third world regions is to be welcomed as a departure from the earlier norms of urban-based industrialization. But it is still necessary to think of rural development as part and parcel of a larger model, a model in which we talk less of rural development in the usual segmental fashion and more of development of individuals and communities - of all of them, irrespective of distinctions of locale or class. It is only in this over-all context that the emphasis on "rural development" will make sense.

B. SCENARIO FOR THE FUTURE

It is from an optimum interrelationship of the above three facets a comprehensive design for the future emerges. We give below the essential components of such a design.

1. Principal focus

The prime concern of economic policy for a just social order ought to be to generate employment that is able to absorb at least the new additions to the adult population, and where there is a substantial backlog of unemployment and underemployment, to absorb that as well. The major source of injustice today is to be found so much in a condition of general scarcity as in the fact of the diminishing marginal utility of men and women as such, in the fact that millions of people find themselves idle and useless, often in their very prime of youth.

2. Agricultural transformation

The major impetus for such employment will have to come from a transformation of the agricultural sector, converting it from an area of stagnation to a catalyst of growth. This can be achieved, first and primarily, by introducing and rapidly implementing an agricultural technology based on renewable resources at a rate commensurate with their regeneration. The inputs associated with the "new technology" does seem to have provided a major breakthrough in many parts of the region in achieving self-sufficiency in food and other raw materials as well as for raising the status of agriculture in national priorities. However, there is need to adopt these practices with conscious care to try to adapt them to fulfil social goals and to ensure endogenous development and local self-reliance. They must substantially raise employment and the incomes of the poor, not just aggregate output. Beyond the new inputs there is need to attend to other practices: crop differentiation and mixing that can increase the amount of labour needed per acre of land and raise the income of labourers, and is conducive to retaining soil fertility development of water resources that are suited to the needs of small farmers and tenants, a combination of large inputs of organic and small additions of inorganic fertilizers for maintaining a sustained process of productivity, encouragement of farm practices that are labour-intensive, discouragement of mechanization that is labour-displacing, and the provision of relevant credit and infrastructural inputs for the small cultivators. This, in turn, calls for the other package of measures known as land reforms, so that the benefits of agricultural development are widely dispersed instead of being pre-empted by the well-to-do farmers, as has occurred in so many countries, so that the rural social and economic structure becomes more egalitarian, and so that the available land is able to provide employment and a minimum income to millions more families than is at present the case.

3. Rural industrialization

In large parts of the world it is safe to predict that the sum total of reforms involved in a new agricultural drive and redistributive legislation will not be enough to sustain a growing population on the land. Studies on manpower absorption by different sectors of the economy show conclusively that, except in the few places with very low population density and large surpluses of land, there comes a stage when agriculture begins to absorb a diminishing proportion of the rising population. It does not follow from this, however, that those not engaged in agriculture should take to the cities for jobs in modern industries, for the fact is that the latter are not as great employers of men as they are of machines; and, in any case, the investment needed to generate the needed employment through modern industry is of a scale that few among the poorer countries can afford - except by large-scale import of foreign capital, which is neither feasible nor desirable.

In the light of various other trends - in resource use, congestion, breakdown of city life, and growth of crime and violence - it is necessary to restrain large-scale migration to the cities. There is need, therefore, to provide non-farm employment in the rural and semi-rural areas. This can be done, first, through massive public works programmes to construct durable community assets and to restore local resource endowments like water tables, forests, cultivable soils, inland waterways and endogenous sources of energy and protect the resilience of ecosystems for which there is great scope in the millions of villages and tribal settlements of this region. Employment in these public works can take on a role quite different from short-term relief operations; they can become a basis for long-term investment and reduction of costs in such spheres as energy generation, water use, land consolidation and marketing of farm output, in turn generating more productivity, employment and incomes. A large part of these activities can be supported by the resultant increased food output, thus also restraining inflationary tendencies. Improvements in agriculture can also be used as a stimulus to a whole line of processing and refining industries in the rural areas.

Secondly, such a combination of increased farm output and increased employment on land and public works should provide the basis, through its stimulation of demand for consumer necessities, for the growth of small towns close to the rural areas where medium- and small-scale industries can be located. The usual haphazard growth of towns and cities that takes place in

the absence of conscious policy, renders them essentially parasitic spots where middlemen bring the flashy products of industries from large cities or imported from abroad and good villagers into buying them at exorbitant prices. This should give place to a conscious policy of decentralized industrial development and location so that urban growth becomes complementary to rural development and contributes further to the growth of employment and incomes of the poorer strata. The chief casualty of the colonial period was a whole range of rural and semi-rural industries and a number of non-agricultural occupations that gave livelihood to large sections of the people - and which in fact made for a society that was far less unequal and centralized than is the case now and hence one that was less corrosive of local resources and local environments. It may not be possible to revive the whole spectrum of these occupations, but it is possible and necessary to provide a new basis for fulfilling the same economic functions, namely, making work available other than farming. The encouragement of self-employed artisans, the cultivation of the finer arts and crafts in line with the rich and complex traditions of this region, and the growth of new and small-scale industries for the manufacture of goods by the local people for local needs can provide the basis for this regeneration.

4. Social continuum

The crux of such a combination of policies designed to raise employment and alleviate mass poverty is to put agricultural and rural development at the core of public policy. But there is a counterpart to this approach in the area of urban development and industrial policy as well. Apart from heavy industries, which require large capital inputs and centralized organization, industrial development should be employment-oriented as much as possible, should produce goods that are needed by broad strata of the population rather than by a small middle class, and should be widely dispersed over a country so that the employment that it generates benefits all areas rather than a few cities or regions as is the case today. Regional disparities constitute a crucial - and visible - dimension of social injustice. Most of the favoured regions in Asia are those with large urban centres.

Socially, this means that the present duality of city and countryside must give place to a continuum in which an ecologically balanced and socially equitable agricultural development (and its necessary concomitants in livestock, horticultural and forest development) regenerates the villages, small-scale

and medium industries are located in the town, and large-scale industries that necessitate heavy inputs of capital, machinery and complex organization are located in the cities. As such a fusion between industry and agriculture takes place, further intermediate links in this continuum - rural social structures in towns, urban amenities in villages - will develop, thus combining the best traditions of both rural and urban life and producing a composite and integrated culture.

The preferred scenario for the region should not be one made of millions of self-contained villages but, rather, one of thousands of small nucleating towns towards which the rural landscape gravitates, thus doing away with both the present duality of metropolitan and rural cultures, limiting the large size and concentrated location to just the industries that cannot do without them, while at the same time enlarging the size and horizon of rural communities, and providing them with the necessary infrastructure of welfare and communication facilities. Such a spatial structure - supported by a decentralized structure of community decision-making, as argued below - would provide the necessary framework for the techno-economic alternative to the present dualist model of city versus countryside.

5. Policy on education

It is not simply by altering the economic basis of rural-urban relationships that a more equitable and composite social order will be created. We also need to alter the cultural underpinnings of the present patterns of dominance and disparity in life styles. An important source of the sharp duality of life styles and living standards found in most poor countries is the educational system the aim of which continues to be to produce colonial-type gentlemen, disoriented from the larger society and constituting a class apart.

In most ex-colonial countries, formal education was initially meant to produce an elite, mainly to fill the ranks of the bureaucracy, the law-and-order establishment, and the technical positions in public administration and private enterprise. This orientation still persists in spite of the achievement of independence and in spite of the political elite's commitment to democratic and socialistic ideals. Education, far more than property or income, is the basis of privilege in these societies.

Meanwhile, a majority of the population continues to be illiterate and unskilled, while the ranks of the highly educated in the urban areas keep swelling. Studies in this area suggest that whereas expansion of literacy and

primary education produces very rich and rapid dividends, after a point higher education turns out to be counterproductive. Acquisition of a minimum educational level greatly raises people's skills and their capacity to enter the employment market; it also raises their sense of potential achievement and their ability to relate themselves to the outside world, their sense of political efficacy, and their general self-confidence and sense of dignity. In contrast, an indiscriminate expansion of higher education beyond the absorptive capacity of the economy produces an alienated class that is unable to relate meaningfully to the rest of society, that rapidly inhabits various levels of the bureaucracy, making it increasingly inefficient and insensitive to the needs of the people, and, with growing unemployment in its ranks, loses self-respect and becomes aggressive.

This polarization between a large mass of illiterate and totally unskilled and hence unemployed people on the one hand and a class of people who are overeducated and hence also unemployed on the other is a natural result of the hiatus between the elite and the people - and between parasitic cities and a depressed countryside - discussed earlier. We must alter this condition by a major allocation of resources to mass literacy, primary education and adult education programmes, by giving special attention to the economically weak and socially handicapped strata whose major avenue of mobility seems to be education, and by a reorientation of the job market so that employment within a wide spectrum of non-technical jobs is available to those without college degrees, thus deflating the importance of higher education and the disparities that result from insistence on degrees.

It is necessary to emphasize strongly the importance of widespread literacy in generating massive social and economic transformation. Poverty is, to a large extent, a cultural condition and if poverty breeds poverty and perpetuates itself, it is because it is located in a particular cultural milieu - a milieu of ignorance, isolation, segregation and an extremely low self-image of the poorer classes, who suffer exploitation without protest and indeed consider exploitation to be the natural state of affairs. This situation cannot be changed except by a basic cultural attack. And the primary precondition for this is literacy and minimum education. This point cannot be overemphasized and needs to be expressed continuously and loudly. One of the unfortunate consequences of the recent attack on schools and education in some third world countries is that upper-class elites that have already

cornered educational resources and occupy bureaucratic and professional positions (and have sent their own children abroad for studies) have been busy pruning down educational programmes - just at a time when such programmes were beginning to spread to backward regions and lower classes. Though the motivation of its authors is clearly different, the "deschooling" thesis poses the same danger as the "limits to growth" thesis.

There is need to give special attention to the education of women. In most parts of this region and in the third world as a whole (including in the islands of prosperity), women are less educated than men and within the depressed social strata and ethnic minorities the gap is even more pronounced. Meanwhile, the daughters of the rich are flocking to the universities and some of them are leading women's liberation movements which in these countries in effect means the liberation of the privileged. These gaps in education among women and between women and men are an important source of the persisting duality of cultures, economic levels and consumption standards, the latter more often than not being a direct function of the perennial shopping to which modernized women are so addicted. These differences also account for the wide divergences in the way the children of the rich and the poor are brought up, thus perpetuating sharp disparities for generations to come.

Lack of education of women is an important cause of the exploitation of women which is a marked characteristic of these societies (though it is expressed in modes that are quite different from those in western countries). The main basis of this exploitation is economic and it is found at its worst in the lower classes: wives and daughters working outdoors from dawn to dusk while their menfolk indulge themselves in drinking and gambling. The only way of breaking out of this "culture of poverty" is education for all - but most of all for women. Special attention needs to be paid to the education of women from poor and underprivileged strata of society in order to achieve a major spin-off process of social reconstruction. Apart from the poor and the underprivileged strata, there are specific ethnic or religious groups in which women are assigned a subsidiary status, and this condition is perpetuated by wide gaps between men and women in their access to cultural institutions, economic opportunities and political movements. Educational deprivation contributes substantially to this condition.

6. The ethic of consumption

Even more fundamental than the gaps in the literary culture are the gaps in the material culture that divide the urbanized upper and middle classes from the people. Perhaps the most important and glaring contrast of today is caused by the extraordinary consumption levels and material possessions of the rich and high-status groups in third world societies, following almost in toto the standards set by the high-consumption societies. The lust for things and for more and more things has become so myopic, especially in this region, that it has given rise to all kinds of unethical practices, chief among these being a great deal of corruption among public officials and a thriving "contraband" economy that is sustained by the availability of a large array of goods of conspicuous consumption.

Apart from the vulgarity of such ostentatious living in societies characterized by poverty and malnutrition and apart from the creeping corruption to which it gives rise, such standards of consumption also undermine the whole fabric of economic policy. We have already discussed in an earlier section the erosion such a life style causes in a society's resource base, in its autonomy from external dependence and in its psychological and cultural foundations. Here we will confine our remarks to a more pragmatic aspect, namely the pursuit of economic policy that aims at equity and welfare. If a massive programme of employment and social welfare is to be generated, a high rate of savings becomes necessary. This implies a high rate of savings among those with large incomes as well as restraint on salary and wage increases among the employed classes, including the working class, so that resources can be transferred to employing the unemployed (in a poor country to be employed is itself a privilege) and raising income levels of the poorly employed and the underemployed. There is also need to encourage voluntary savings among the working class, the farmers and the lower-middle classes who have already reached an income level that provides for basic consumption needs. At the same time the consumption of the really poor sections must be raised substantially both for increased productive efficiency and for equity.

All of this calls for an ethic of consumption that discourages ostentatious living, cuts down the production and consumption of non-essential items and shifts production priorities towards fulfilling the needs of the poor. It is, of course, necessary to encourage thrift and savings among the peasantry, the lower-middle classes and even the labouring classes as mentioned above.

But this will be an impossible task unless the pace-setters of society themselves adopt a consumption ethic that encourages austerity and reduces the gap in material culture between the different classes. Gandhi put his finger on the most crucial dimension of moving towards a just social order when he called for a limitation of wants and warned his countrymen against falling prey to an industrial machine that not only reduces a majority of men to labouring slaves but also dictates what and how they should eat, wear, dress, sing and dance. Today his insights are even more relevant than when he lived. If men and women are to achieve autonomy and dignity and a sense of wholeness, they ought to exercise self-control; autonomy without self-control degenerates into exploitation. If there is to be an end to exploitation and inequity and aggression in society and degradation and rampage and devastation of nature, the present norm of a high-consumption ethic must give place to one that both meets the minimum needs of all men and limits the needless expansion of wants that have no relationship to the basic requirements of body and mind.

7. The nature of production

Built into such an ethic of consumption is also an ethic of production that is critical to the achievement of justice in society and balance and harmony in nature. The current notions of social justice derive from a concept of economic equality that is essentially distributive. It is not surprising, therefore, that both theoretical understanding and empirical evidence have underlined the need for first expending the cake and then distributing it. Part of the problem is that both production and distribution are thought of in terms in which the mass of the people are reduced to a position of subjects and onlookers. An economic ethic that seeks to meet the consumption needs of all while limiting the flow of inessential commodities involves a simultaneous increase in the incomes of the poor and the output of goods that they will need to buy with those incomes - and these are goods that people produce primarily with the help of natural processes and only marginally with the help of machines. The inessential "wants", on the other hand, require a reversal of inputs with greater reliance on man-at-the-machine than man-in-nature. This means that instead of conceiving production and consumption as two separate activities mediated by impersonal and inanimate agencies, one aims at an economic system that (to cite Gandhi again) not only produces for the mass of the people but one in which the mass of the people are also the producers.

As with all visions, perhaps this too, is an ideal. All that one can hope to initiate is a movement towards such a state. In practical terms this calls for a location policy that, while permitting large-scale organization where it is unavoidable, will encourage a location-specific, small-scale, labour-intensive and decentralized pattern of industrial development. Similarly, the market economist's retrogressive concept of "effective demand" (that only the needs that are backed by the existing distribution of purchasing power are worth producing for) will have to give place to a concept of need-based production, so that the real needs of the people as a whole determine what goes into the package of production. A combination of such a production system and the consumption ethic outlined above will lead to a climate in which progress towards dispersal and decentralization of economic power becomes possible. As this happens, the orientation to social justice will become less technocratic and become more political and thus capable of initiatives from below. It is also an orientation that is in tune with nature rather than exploitative of it. With this the social norm of an equitable order coincides with nature's own conception of order.

C. HEALTH AND NUTRITION

1. Social minima

Major casualties of the present structure of consumption and production are the large numbers of people in poor - as well as in some rich - countries who suffer from acute malnutrition and resulting physical and mental deficiencies. Their numbers are likely to increase in the next few decades. While demographers and bureaucrats are busy propagating birth-control measures to ward off an "explosion" some time in the next century, inadequate attention is being paid to the problem of enabling those who are already born and who will be born in the next twenty-five years (only after which is population planning likely to have an impact) to live a normal life and put in sustained work for their livelihood. (This is not to underrate the importance of reducing population growth. For in an already highly populated country the burden of dependency on the income-earners becomes much too heavy and the sense of dependency among the young brings on feelings of rejection and humiliation.)

The picture of the culture of poverty that emerges from various studies is highly depressing: it is a picture of large families exhibiting physical and psychic abnormality, incapacity for sustained work even for a few hours,

a pronounced inferiority complex, a tendency to deal with patterns of exploitation and coercion by directing them inward and against their own dependents, and a vicious cycle of parents inducing children into these characteristics of deprivation and degradation, turning them into the same kind of adults when they grow up, and thus almost ad infinitum. We must give top priority to a programme of providing basic health care (with more accent on preventive health services) and an adequate supply of protein and other nutrients to the poor and especially to their children. One of the more important elements reinforcing health problems in poor countries is that those most needing medical attention are precisely those who are too poor to take advantage of available facilities. The same is the case with nutrition.

Here it is essential to stress a special advantage that third world countries have in charting a distinctive course of development, in which the human cost that has accompanied economic growth in other societies can be avoided. Given their advantage in the low cost of trained manpower, it is possible to spread the basic essentials of education and health over the whole country, to all classes of people and in a short time through concentrated and devoted effort. This will lay a surer basis for all-round and continuous development than all the investments made in high technology, urbanization, mass media development and the other appendages of "modernity". Health and education are the essential pre-requisites of social and economic mobilization for sustained - and sustainable - development. Once such a basis is laid, nothing can prevent a society from moving forward. What is more, it will be a process of development that will produce far fewer disparities and dislocations than is the case when the sole emphasis is on economic growth in aggregate GNP terms without regard to the cultural framework in which it takes place.

2. Minima and maxima

The above analysis provides the elements of an alternative model. The objective of development, according to us, should be to achieve minimum conditions of material welfare for all the people, the minima to be defined according to local conditions and norms, but all of them providing at the least a package of minimum items of human necessity such as food, clothing, shelter and nutritional needs to children and mothers in particular, and socially approved minima of health, education, drinking water and public transportation for all. The extent to which these minima should be translated into personal or family incomes or be combined with social welfare and social-security

programmes will depend on local conditions and the nature of the political system. But it should not be difficult for any system to work out a minimum-income policy as a basic component of development planning.

A policy of minima entails a policy of maxima. Indeed, without the latter the former is, in practice, impossible to realize in reasonable time. Also, beyond a certain point, incomes ought not to be allowed to grow nor human wants allowed to be artificially stimulated by the aggressive salesmanship of modern industry or the demonstration effects from the rich capitalist countries. There are two reasons for this limitation, one of which is relative and the other absolute. No one has a right to amass more and more income and riches when large sections of humanity live below subsistence standards. Also, it is morally undesirable to go beyond a certain level of fulfilment of human needs. For an unlimited gratification of wants leads to individual decay and social disharmony, an unnecessary destruction of natural resources, a fouling of the human environment, and thus a bartering away of the health and happiness of future generations for the present pleasure and lust of a few. Hence our emphasis on "limitation of wants" as a necessary principle of a preferred world.

3. Participation

Implicit in such a preferred model for social and economic justice are also a number of other issues. The norms of minima and maxima are not mere economic formulations; they are part of a certain conception of a good and desirable life. Not only should an individual be entitled to a minimum standard of living; he should also be able to participate actively (though he ought not to be forced to do so) in the way things are produced and decisions are made. It is not just a minimum wage that one thinks of here in some kind of contractual relationship, alienated from the work process and the total scheme of ownership, production and distribution of the means of livelihood. Rather, one thinks of an apparatus that men and women themselves control and find meaningful and from which they derive a sense of personal power and significance. Furthermore, to the extent that economic activity is managed and mediated by political and administrative agencies, the whole problem of effective participation in decision-making, at the desirable level and in optimum units, becomes real. Without such participation the economic aims may indeed be difficult to achieve.

There is also the need to prevent the economic process, and what is tellingly called the "industrial-bureaucratic complex" of modern society, from taking on a will of its own and destroying every other value in its inexorable march. In other words, as the values of a participatory democracy and of non-violence in man's relations to man and to the environment are joined with the values of individual autonomy and social justice, it may well be that we should ask ourselves equally basic questions about the kind of institutional super-structure that we want to build. Three major aspects of this issue are (a) the rural-urban structure of the economy, (b) the territorial structure of the state, and (c) the participatory structure of the polity. As we consider these aspects, it will become clear that the current model of modernization is not conducive to the goals spelt out by us, that the norm of a necessary shift from a predominantly rural to a predominantly urban structure based on large-scale industrialization may not be the best thing that human intelligence has devised, and that urban metropolitan life, far from being a "civilizing" instrument, may turn into a structure of manipulation, exploitation and destruction of the very properties of man's natural environment that are essential to human survival.

Similarly, we may also question the norms of centralized government, large-sized states and big bureaucracies as necessary instruments of national integration and political accountability. And as we question these, we may begin to answer with greater clarity the problems raised about local autonomy, about decentralization of functions, powers, resources and talents, and about optimum size for genuine participation of the people. Perhaps there is something to be gained in the very short run from large-scale enterprises, modern communication media and centralization of planned initiative, although the real issue here is less of scale than of control. But it is also necessary not to close all options for the generations to come concerning the quality of life they would like to have. As the prospects of the future are vitally affected by what is done in the present - it is no longer possible to think in terms of just a few years or even a few decades ahead - it is a matter of considerable responsibility that these various consequences of present actions are borne in mind.

It is necessary to consider here a widespread belief that rapid development cannot be carried out in a participatory framework, that only a determined and authoritarian elite can bring it about, that this indeed is the lesson of contemporary history. Our answer to such a position is that it mistakes

appearance for reality, that the issue is not one of choice between liberal democracy dominated by machine politics and state socialism in which a small bureaucratic elite seeks to perpetuate itself, but that both these systems are authoritarian as far as the majority of the people are concerned (there is far greater similarity between the two than appears at first sight), and that the real issue relates to the classic predicament of political life, namely, the relationship between those in power and those out of power, between the government and the people. Seen in this light, it is not surprising that the demand for authoritarianism has normally come from members of the privileged classes (the businessmen, the bureaucrats, the technocrats), often reinforced by the analyses and prescriptions of foreigners. These issues are highly pertinent to the region in which the seminar for which this paper is written will be held.

The model of a participatory system should not be conceived in terms of simple political reforms. Rather, it should be expressed in a number of sectors: concerning economic organization and its governance, the nature of education, location of work and enterprise, choice of technology, size of units (economic, political, demographic, communications) and the nature of work. Participation is not some process of involving everyone and reducing all to a common denominator. Such a conception often becomes a handle in the hands of political manipulators and demagogues. It rather consists in evolving institutional structures from which diverse individuals get a sense of dignity and self-respect, as beings that are able to determine their own destinies. For poverty and inequality are themselves reflections not just of prevailing relations of production but rather of structures and values that deny dignity to the human being.

Nor should our approach to participation be conceived in terms of establishing idyllic and isolated small communities. The idea (as outlined above) of a social and spatial continuum goes against such a utopia. We are also convinced that, given the numbers of human beings we have to deal with, such a utopia is no longer feasible. Our concern, rather, is that structures at various levels and of various sizes imbibe the value of participation as integral to the concept of a just society and the values of autonomy and dignity of all human beings. It is only through such an integrated view of the various components of a development model that an alternative political perspective can emerge and that policy issues can be discussed in a meaningful manner.

It would be folly, however, to look upon such a perspective as in any way smooth sailing on some neat course. Nothing is more difficult to realize than change in the social framework of politics - except for the worse. Every move on such a course needs to be fought for, by organizing for it and building sustained pressures from below in the form of social and intellectual movements. And it is, of course, clear that these will need to be conceived and carried out in not one but many spheres, at not one but many levels. But we are firmly convinced that it is only on the basis of a clear acceptance of a decentralized and highly participatory democratic structure that both social justice and environmental equity can be realized.

These, then, are the issues that arise when specific problems of economic strategy, political structure, educational policy and the reconstruction of the human space and the natural environment are considered from the integrated perspective provided by a set of values and the criteria that follow from it. Involved in such an approach is a conception of life style in which reason, compassion and a regard for the unity and integrity of life as a whole are joined in the cultivation of a truly civilized life. And as we do this, the distinctions between economic and political issues disappear, as do the distinctions between human and natural, and we begin to see the real linkages that underlie any effort to produce a better world. Our conception of alternative strategies entails such a comprehensive perspective on development.
