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ENVIRONMENT AND DEVELOPMENT

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

FINAL REPORT

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REPORT OF THE UNEP/ESCAP REGIONAL SEMINAR ON
ENVIRONMENT AND DEVELOPMENT: ALTERNATIVE
PATTERNS OF DEVELOPMENT AND LIFE-STYLES
IN ASIA AND THE PACIFIC

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INTRODUCTION

1. The Seminar was convened from 14 to 18 August 1979 at Bangkok. It was organized jointly by the United Nations Environment Programme (UNEP) and the Economic and Social Commission for Asia and the Pacific (ESCAP). As one of five being held in the major United Nations regions, the Seminar formed part of the preparations of an input into the new international development strategy at the regional level. The purpose of the Seminar was to provide a forum to development planners to examine the issues and prospects involved in designing environmentally prudent patterns of development which were at the same time socio-economically satisfactory. The Seminar was serviced by background papers prepared by experts on various topics on the agenda and also by several case studies presented by Governments from the region. These papers are listed in the annex to the present report.

Attendance

2. The Regional Seminar was attended by national development planners and policy makers nominated by Governments of the following members and associate members of ESCAP: Afghanistan, Australia, China, Fiji, Hong Kong, India, Indonesia, Japan, New Zealand, Philippines, Sri Lanka, Thailand, Union of Soviet Socialist Republics and Viet Nam. There were observers from the United Kingdom of Great Britain and Northern Ireland and the following United Nations specialized agencies: International Labour Organisation (ILO), Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO). The Asian and Pacific Development Institute (APDI) and the Asian and Pacific Centre for Women and Development (APCWD) were also represented. Experts on the various topics of discussion also participated in the Seminar. The Seminar unanimously elected Mr. Charan Burapharat (Thailand) as Chairman, Mr. Herman Haeruman (Indonesia) as Vice-Chairman, and Mr. T.R. Satish Chandran (India) as Rapporteur.

Agenda

3. The following agenda was adopted by the Seminar:
1. Opening addresses
 2. Election of officers
 3. Adoption of the agenda
 4. The need for, and the promise of, alternative development patterns in the ESCAP region: the role of the environment

5. Environmental considerations in development in selected fields
 - (a) Land and water management
 - (b) Energy alternatives
 - (c) Community development
 - (d) Industrialization in relation to rural-urban development
 - (e) Urbanization
6. Methodological and institutional considerations for environmentally sound development
7. Environment and development in the international perspective
8. Action at the international and regional levels for environmentally sound development
9. Adoption of the report

Opening statements

4. In his opening statement, the Executive Secretary of ESCAP emphasized that the region had the largest population and was one in which the quality of life crucially depended upon wise management of increasingly limited natural resources. With environmental problems of great magnitude, the development process had to be finely balanced. Detrimental consequences of man's use of his environment were far from inevitable, provided that there was much greater awareness of the current and future consequences of patterns of resource use - an awareness extending not merely to the constraints, but also to the potentialities inherent in man's interactions with nature. Some features of past patterns of development made it increasingly evident that those patterns could not be sustained indefinitely. There were alternative development patterns, implying changes in consumption and production, and life-styles that merited serious and urgent attention. In addition to being more environmentally sound, those alternatives could also be more conducive to promoting equity. It was necessary to strengthen the mandate of planners and promote wider knowledge and rational management of resources in the long term. The task confronting planners was an immense responsibility, a difficult challenge, but also a great opportunity.

5. In his opening statement, the Assistant Executive Director of UNEP noted that the issues related to integrating environmental considerations in practical planning at all levels needed to be examined systematically by planners and policy makers of socio-economic development. The Regional Seminar was meant to provide a forum for an open-minded discussion among planners on that question. He stressed that environmentally prudent

/alternatives

alternatives in development must, at the same time, respond to the urgent development needs of countries. That posed a challenge to planners everywhere and required innovative thinking and multidisciplinary and unified perspectives within which decisions were to be made. The background documentation for the Seminar prepared by experts illustrated the nature and magnitude of some major environmental and developmental problems in the region, and examined the issues involved in their resolution. He invited the participants to put those and other issues in a practical perspective. He hoped that the discussion during the Seminar would stimulate national action and international co-operation for environmentally prudent and socially satisfactory development everywhere.

I. THE NEED FOR, AND THE PROMISE OF, ALTERNATIVE DEVELOPMENT PATTERNS IN THE ESCAP REGION: THE ROLE OF THE ENVIRONMENT

6. The Seminar had before it the following three background papers

"An empirical overview of environment and development: Asia and the Pacific" (DP/EDRS/1); "Environment and development" (DP/EDRS/2); and "Interrelations among population, resources, environment and development in the ESCAP region, with special reference to Indonesia" (DP/EDRS/3).

7. The Seminar noted that aggregative projections in respect of environment, resource availability or developmental prospects, whether optimistic or pessimistic, did not reveal the true nature of the problem in the region. It was important to examine how the costs of the environmental changes were distributed within the societies, and over regions within countries. It was not enough, for example, that there existed from a world standpoint a promising technology to alleviate the worst environmental and developmental problems in the region. It was also important to ensure that target groups within countries most in need benefited from such technologies or alternatives.

8. The worst environmental problems in the region were related to the existence of widespread poverty; development alternatives that provided lasting solutions to the poverty question in the region would also help improve and protect the environment significantly. Moreover, wide disparities in the distribution of, or access to, resources resulted in environmental degradation or depletion on the one hand, and insufficient use of the environment on the other. Thus in several situations, narrowing disparities in the distribution of incomes were also likely to improve the environment.

9. It was observed that many countries in the region had achieved satisfactory rates of economic growth in aggregative terms over the past two decades. Therefore, the search for environmentally prudent and socially satisfactory alternatives in development was particularly challenging if the momentum of economic growth was not to be lost.

10. Some of the main "signs of stress" that had surfaced over the recent past in the region were the following:

(a) The inadequacy of the decrease in the crude birth rates of population in the light of the fact that the postponement of realizing a net reproduction rate of unity would inevitably add huge numbers to the existing population;

(b) Growing food deficiency, which was expected to be between 30 and 50 million tons by 1990-2000, even on the assumption of a high growth rate of agriculture;

(c) Growing soil erosion, whose extent is roughly one fifth of the cultivated area at present;

(d) The disappearance of crop land as a result of urban growth and the associated increasing demand for land for housing, transportation and recreation;

(e) The increasing real cost of producing food in terms of such inputs as fertilizer and pesticides;

(f) Generally worsening inequalities and increasing numbers of poor people in the region;

(g) Acceleration in the increase in the number of unemployed and underemployed at an alarming rate which might require the creation of more than 600 million extra jobs by the year 2000;

(h) The continuing growth of landless labourers which was bound to accentuate the unemployment problem.

11. To cope with such stresses on the environment, the search for alternatives leading to an environmentally sound development strategy should be intensified. Such a strategy could not be universal for all countries but it should have certain facets.

12. First, development should achieve, in addition to income growth, the promotion of employment, and a more equitable distribution of income and wealth, and at the same time protect and enhance the socio-economic and physical environment. It should also be based on endogeneity, self-reliance, structural transformation, and sustainability.

13. Secondly, development should raise the productivity and incomes of the poorer people by providing them with greater access to resources and by encouraging them to organize themselves for the creation of community assets, including infrastructure, by community effort.

14. Thirdly, the use of a decentralized approach to planning and development, which would encourage greater participation in development, and which, at the same time, would benefit from an over-all effort at rational management and use of resources, should be explored.

15. Fourthly, a reordering of consumption priorities and associated investments should be undertaken along with the fostering of differential growth rates of income to benefit the poor.

16. There was the question of social and ethical acceptability of the instruments required to bring down the net reproduction rate to unity in the time span required. The participants were of the view that incentives and education and general improvements in levels of living were more desirable than compulsion.

17. The participants also felt that consumption patterns should not be left to be determined by market forces alone but that there should be systematic planning of consumption, and production planning should correspond to it. It was observed that in some countries that was already being attempted.

18. It was noted that one of the fundamental problems in evolving environmentally prudent alternatives was that the interests of social groups were not homogenous and groups which had been better off in the past would try to improve, or at least maintain, their relative well-being.

19. It was pointed out that in Sri Lanka there was a long experience of need-oriented development. However, that had neither brought about vigorous economic growth nor prevented the growth of unemployment. The basic dilemma faced by poor countries in the region was that the per capita availability of resources was very limited. Foreign aid was an important increment to these resources and in approaches to self-reliance it should not necessarily be ruled out as a legitimate means of development.

20. It was generally agreed that in several developing countries there was scope for physical planning to ensure a minimum access of people to essential amenities such as water supply and sanitation. Such physical planning should be carefully carried out so as to improve the environment at the same time. Similarly, territorial planning of agricultural, industrial and infrastructural development could both improve the environment and promote economic development.

21. The Seminar also felt that it might be necessary to impose upper limits to the consumption of scarce resources.

II. LAND AND WATER MANAGEMENT

22. The Seminar had before it the following four background documents: "Approaches to land management in the ESCAP region" (DP/EDRS/4), "Environmental problems and the organization of development in the arid lands of southwest Asia" (DP/EDRS/5), "Integrated approaches to water resources management in rural areas in the ESCAP region" (DP/EDRS/6), and "A case study of the Pa Mong Project (Thailand): environmental aspects" (DP/EDRS/7). Those documents drew attention to the enormous and growing food production needs in the region; emerging limits in cultivable land use in many parts of the region; imperfections of irrigation schemes; increasing degradation of water resources; deforestation and desertification and other serious problems associated with land and water management.

23. The Seminar stressed the need for integrated development with due consideration to environmental parameters to avoid environmental disruptions detracting from planned benefits. The environmental object of development was the conservation and improvement of the productivity of resources. The approach regarding land and water development areas as ecological units was endorsed, with consideration of the effects of development on the primary resources, namely water, land and biota. In that connexion, the Seminar took note of the valuable work undertaken by the Mekong Committee in the Mekong river basin. The nature of interactions in such ecosystems in a response to development measures was reviewed.

24. The Seminar noted that any development activity necessarily involved some ecological costs and that the overriding consideration in the selection and implementation of development projects had to be the minimization of ecological costs and the maximization of benefits through: (a) careful multidisciplinary studies and research, including collection of data on the status of natural resources, (b) long-range planning, (c) training of needed technical personnel, and (d) thorough, painstaking and chronologically sound execution of projects.

25. Specific instances of benefits accruing and dysfunctions resulting from land/water development projects were cited. It was pointed out that environmental effects of modifying, or developing, one terrestrial or aquatic ecosystem could not be inferred from any other; and that even within the same geographic region, those systems could differ greatly in terms of response. Systematic environmental surveys, impact assessments and compatibility investigations were therefore fundamental tasks in land and water resource policy making.

26. Central to the discussion on integrated land and water management was dam construction and the Seminar considered the question of optimum sizes of dams. The building of small dams held promise of distributing benefits more evenly and causing less environmental damage. With large dams, there could be more unevenness of benefits as between upper and lower watersheds. Dams resulted in the need for resettling communities and that posed a serious problem of social dislocation. The Seminar noted that such resettlement was associated with a long history of mismanagement. It also felt that the advantages and the disadvantages had to be evaluated in particular situations to arrive at optimum decisions.

27. In computing the cost and benefits of a project, only the value of the standing agricultural or forest crop was shown and not a loss for the entire expected life-period of the project. Insufficient attention was given to the afforestation of the catchment areas, resulting in siltation and shortening of the productive life of dams. However, it was not always true to say that deforestation was caused by dams, since dam builders often took special care, and deforestation occurred also in other localities.

28. There was scope for improved reservoir maintenance to prevent clogging by weeds, and promote aquaculture.

29. Under the topic, a number of general prescriptions were outlined; these included:

(a) Better land and water use planning to intensify agricultural production on suitable lands;

(b) Soil fertility improvement by judiciously combining the efficient use of chemical fertilizer with the recycling of organic materials and promoting wider use of nitrogen-fixing organisms;

(c) Conservation of genetic resources and development of improved genetic materials by making full use of existing genetic variability and gene combination in locally adapted strains;

(d) Wider use of integrated pest management techniques;

(e) Integration, wherever feasible, of crop production with animal husbandry and agri-silviculture by the development of farming systems adapted to the ecological as well as to the socio-economic needs of small farmers;

(f) Ecological management of grasslands in arid and semi-arid areas adapted to the socio-economic needs of the affected populations;

(g) Rational management of tropical forests adapted to socio-economic needs, with the objective of achieving an ultimate balance between the rate of depletion and that of afforestation; and providing for such conservation measures as fixing financial liability for afforestation on those carrying out commercial exploitation;

(h) Soil erosion control and reclamation through appropriate land use, soil and water management, and conservation practices;

(i) Soil salinity control and reclamation through proper irrigation practices and drainage systems;

(j) Desertification control through ecological management of vegetation, including tree plantation, adapted to the socio-economic needs of the affected populations;

(k) Development and promotion of aquaculture.

III. ENERGY ALTERNATIVES

30. The Seminar had before it a paper entitled "Economics and sociology of alternative energy sources" (DP/EDRS/8).

31. The imbalance in the extent of energy consumption between the developing and the developed countries was stressed. The Seminar noted that the control problem for the developing countries was one of reconciling the need for increasing the energy input for productive economic activity with a global situation of depleting energy supplies and rising costs. Within the developing countries there was the further problem of a highly skewed energy consumption pattern among people of different income levels.

32. The Seminar noted that the fossil fuel reserves of many of the developing countries were limited. There had also been extensive denudation of forests resulting largely from commercial cutting of forests. In order to achieve the objective of environmentally prudent development, it was necessary, therefore, that efficiencies of energy use be improved, less energy-intensive patterns of growth evolved and alternative sources of energy tapped.

33. It was felt that, considering the centuries-old practice in developing countries of the use of solar energy for drying, and fuelwood, etc., the term "alternative energy sources" was not quite appropriate. What was essentially needed was to organize and manage the supply of the so-called non-commercial fuels with a view to sustaining and, if possible augmenting, their supply and improving efficiency of use.

34. The subject of fuelwood sources and the serious problem of deforestation attracted considerable comment. It was noted that many countries of the region were being rapidly denuded of their forestry resources, but some doubts were cast on whether the search for fuelwood by the rural poor was a major cause. Since, in many countries, it was women and children who were mainly responsible for collecting firewood, sometimes at some distance from their villages, it seemed unlikely that they could be responsible for felling and transporting trees. Shifting cultivation was often blamed but the practice had been going on for many centuries and it was only recently that rates of deforestation had begun to give cause for alarm on account of the shortening of the period of rotation. The need for fuelwood had no doubt caused destruction of vegetation, and increasing population pressure had accelerated the process, but the major cause of deforestation was commercial cutting. Such activities

/were

were becoming increasingly tightly controlled, although in some countries it was proving difficult to enforce the regulations. It was agreed that there was a need for more industrial-scale, fast-growing fuelwood plantations, but in some areas serious land shortages were a constraint on reforestation.

35. Another energy source on which there was extensive discussion was biogas. Several countries had instituted programmes of biogas production in rural areas, but only in China was the programme a successful and rapidly expanding one. The Seminar heard a detailed exposition of the status and prospects of biogas production in China. At the end of 1978 there were 7 million biogas digesters in use in 1,300 communes throughout China and by 1985 it was expected that that number would rise to 25 million. In addition to meeting needs for household fuel, biogas was providing an inexpensive source of energy for agricultural mechanization and rural electrification. Digesters were cheap to acquire and use at the level of individual families, as well as at commune level. The disappointing results of biogas programmes in other countries were attributed to various factors, including the high cost of digesters, a lack of sufficient cattle dung as feedstock, and inadequate training in the techniques of digester use.

36. With regard to other sources of energy, there had been widening use of small-scale hydroelectric plants. They were not without problems, however, and were often not cost-effective in some countries, although in China their importance in over-all energy supplies had increased markedly in recent years. Other sources of energy, such as wind and solar converters and biomass conversion into alcohol, merited increasing attention, but it was thought that ten to twenty years might be required before they could become competitive with other forms of energy. In the mean time trees and vegetation would continue to be the principal means of solar energy conversion.

37. Animal energy was still the largest source of energy for agriculture in rural areas. But not enough attention had been paid so far to the improvement in efficiency of animal-operated devices, e.g. bullock carts, and to upgrading the breeds with a view to increasing the draft power. It would also be useful to initiate steps to develop simple pedal-operated devices so that the abundant human energy which was available in many of the developing countries was effectively utilized.

38. One way in which more energy-efficient methods might be pursued at village level was in providing more training to women in the use of improved devices for cooking and heating. The role of women in respect of energy use was an extremely important one. It was pointed out in that connexion, however, that women were currently subject to drudgery in rural areas since they were principally responsible for gathering fuelwood and water, and providing cooking to the household. But in some areas men were often disinclined to ease the burden of women by investing in other sources of energy even though such alternatives could contribute to their emancipation.

39. A number of points were made as part of the broader debate on the practical possibilities of adopting energy "alternatives". It was emphasized that in the short term the possibilities of important switches to new sources of energy were limited and that the energy problem was still essentially an oil problem. There were currently many important uses to which oil was put for which there could be little substitution. Kerosene was very widely used in rural areas throughout the region for lighting purposes, and diesel fuel was an essential fuel for transportation and irrigation. Certain oil-intensive activities could be restrained, such as further mechanization in agriculture, and use of privately-owned automobiles. But the room for savings in oil consumption was limited. The feasibility of economic supply of electricity for lighting village homes could be examined as a means to improve the quality of life in villages.

40. The organization of systematic fuelwood plantation programmes would, while meeting an essential need of the communities, make a positive contribution towards environmental improvement. Similarly, a well-organized and massive biogas programme would serve the twin objective of meeting rural energy needs through recycling of waste and improving environmental sanitation. In most of the developing countries, which were predominantly agricultural, agriculture (seen in its wider context) could, in the long term, thus be the base for meeting the needs of both food and energy.

41. Some of the non-conventional technologies currently under development, such as devices to tap solar and wind energy, had the merit of being replenishable and non-polluting. Besides, the new energy technologies held out promise of decentralized energy generation to meet the needs of local rural communities in a manner which would be in harmony with their needs.

42. Most of the developing countries were not yet wedded to energy-intensive Western life-styles and had a unique opportunity to evolve growth patterns which, while ensuring their economic advancement, were compatible with the needs of environmental management, and the global situation of dwindling fossil fuel supplies.

IV. COMMUNITY DEVELOPMENT

43. In considering the subject of environmental considerations in community development, the Seminar had before it of a background paper entitled "Programmes of environmental improvement at the community level; Bangladesh, Indonesia and the Republic of Korea" (DP/EDRS/9). Other documents commissioned for the Seminar also contained material relevant to the subject.

44. The Seminar noted that "signs of stress" in the socio-economic as well as the physical environment were becoming increasingly evident in the developing countries of Asia and the Pacific. In the specific socio-economic context of the rural areas, those stresses manifested themselves in such factors as growing inequalities in the ownership and diminishing efficiency in the use of natural resources of land and other crucial assets, and in the incomes earned among different classes of people. Large numbers of people had little assurance of steady employment or adequate incomes and were beset by malnutrition, high infant mortality, poor housing, inadequate sanitation and health facilities and educational opportunities. At the same time, a minority had managed to add to its affluence, leading to polarization and a wearing down of old cohesive influences in rural communities.

45. At the outset, it was noted that community development programmes per se in the region had had a long history. While the programmes in each country were, in many ways, unique in terms of specific goals to be attained and the institutional arrangements for planning and implementation, it was possible to discern some common characteristics. Many of them had an explicit or an implicit employment promotion aspect, as part of an answer to the seasonal unemployment and underemployment in rural areas. Secondly, the immediate impulse for many of the programmes was to achieve an increase in food production to fill gaps between requirements and availability. Thirdly, there was also a desire to build durable community assets so as to improve living conditions in rural areas. Finally, in many cases the programmes were meant to encourage the participation of local communities in the development process.

46. Based on the evidence available, the results achieved had been somewhat mixed. Moreover many of those programmes had tended, at least until recently, to be ad hoc in terms of conception, resource support and instruments of action, and were not fully integrated as part of sustained national development strategies. But important innovations had been introduced through programmes designed specifically to meet the needs of specially identified target areas and target population-groups. That marked a significant departure from the earlier philosophy, which tended to look upon village society as a fairly harmonious entity. Recent initiatives in India were cited in that context.

47. In regard to environmental objectives, it was noted that rarely were they explicitly built into the programme objectives. Special community development programmes such as the Inpres Penghijauan in regard to afforestation in Indonesia and the Saemaul Undong for its achievements in better housing and roads in the Republic of Korea were, however, examples of community development with a distinct orientation towards environmental improvement. In general better roads, improved sanitation, scientific methods of cultivation etc. often led simultaneously to improved incomes and a better-managed environment, though contrary results were not unknown in some cases. The unregulated use of agro-chemicals was a case in point. The programmes of the 1960s and the 1970s witnessed a generally inequitable distribution of benefits as between bigger landowners and smaller landowners, between the landowning class as such and the landless, as also between rural producers and urban merchants. Programmes of environmental improvement at the community level (e.g. terracing in Indonesia), were successful when the whole community was seen to benefit from them, whereas in cases where there was significant conflict of interests those did not succeed.

48. In looking at the question of compatibility between, and the need and feasibility of, integrating systematically the environmental with the socio-economic objectives of development, the Seminar drew upon past experience in the light of changing perceptions about development and a greater awareness of the environmental considerations, and was of the view that the two could not be divorced in the shaping of development policy. They represented two sides of the same coin: equitable access to resources and their discriminating use in a longer time perspective. The apparent trade-off that emerged between the two needed to be resolved by each society with reference to its time-preference

and the relative weights to be attached to costs and benefits for different classes of people within the society. In fact, as the documents prepared for the Seminar had brought out, new development possibilities with an accent on use of local resources, encouragement to community initiative, and a greater harmony between people and their natural environment, opened up as a result of the pursuit of such an integrated development strategy.

49. In translating those concepts into practical propositions, there were a number of important elements to which attention was drawn. A general point was that it was not possible to assess the over-all impact on the environment with reference to the results of a few officially-sponsored programmes of development. The rural environment underwent changes constantly, for better or for worse, as a result of the actions of numerous individuals constituting a community. The manner in which underground water was utilized by farmers, irrigation and drainage managed, and wastes disposed of, for instance, had a direct influence on the state of the environment which, in turn, impinged on the prospects for development in future years. It was therefore necessary to identify points of interaction with the community members through specific activities. Some of those were perhaps best designed for the community as such (e.g. afforestation, sanitation etc.), but some would perhaps be more effective if the interaction was at a more personal level (e.g. family planning). In both cases, however, people's education and environment constituted an essential ingredient of sustained success.

50. Another implication of that approach was that the planning and decision-making process needed to be decentralized, though within the over-all context of national planning priorities. The Government could take responsibility for assisting such efforts with the provision of financial and technical inputs. Location of leadership potential at the local level was an important task in that connexion. Traditional foci of leadership in institutions and individuals as well as informal leaders could well be pressed into service, provided they were also accountable for their actions to the public at large, and more particularly to the low-income and the socially disadvantaged groups. Interesting illustrations of that, and particularly the role played by religious leaders, youth clubs and women's committees, were cited from different countries. That, in turn, emphasized the importance of having the programmes designed with sufficient flexibility so that not only the detailed activities but also major instruments for action could adjust themselves to local conditions and potentialities, including the possibility of accelerating development through a

careful involvement of outsiders. The transmigration programmes in Indonesia were considered particularly noteworthy in that connexion.

51. Finally, it was reiterated that an environmentally sound development programme at the community level in fact might prove unattainable unless the intended development was also oriented to equity and social justice. A cornerstone of that philosophy had to be that every family would have access to at least a minimum of productive assets, skills and services. Moreover, guaranteed minimum incomes through employment generation in public works and programmes of physical planning to ensure at least a minimum access to essential amenities (e.g. sanitation, water supply) and services (e.g. health) could be so designed as to ensure maintenance and augmentation of community assets, natural and physical. In that context it was reported that a new programme of physical and economic development planning at the sub-district level had been introduced recently in India to strike the right resource and needs equation at local levels.

V. INDUSTRIALIZATION IN RELATION TO RURAL-URBAN DEVELOPMENT

52. The Seminar had before it the background paper: "Industrial development strategies and rural-urban imbalances in Asia: selected case studies and an overview" (DP/EDRS/10). In addition, case studies submitted by Governments, particularly those of Japan and the USSR, had a close bearing on the subject.

53. The Seminar affirmed that it was imperative for developing countries to industrialize rapidly, and diversify the structure of their production in order to alleviate widespread poverty and improve the environment in which people lived. However, in order to realize the interrelated goals of socio-economic and environmental development, it was essential to pay particular attention to what was produced, how it was produced and where the production enterprises were located. There were important lessons to be learnt from past patterns of industrial development in some developing countries of the region, as also in several industrialized countries, in respect of improvement of levels of living, especially of the poor, rapid economic growth itself, and considerations relating to the environment. Industrialization in some countries had entailed large unused industrial capacities, had failed to generate productive employment of the kind and magnitude required, and had been insufficiently planned in co-ordination with agricultural development so as to sustain healthy economic growth.

54. The Seminar noted that a strategy focusing on urban industrial development in Japan and in the Republic of Korea had brought about broadly based improvement in economic and environmental well-being in rural areas as well, over a period of time. However, such strategies had not succeeded in some other countries. The success of the programmes of Japan and the Republic of Korea was predicated especially upon high absorption of rural labour in urban industries, mutually beneficial linkages between small-scale and large-scale industry, far-reaching land reforms, sustained improvements in agricultural productivity, and redistributive policies in favour of agriculture. On the other hand, rural industrialization as part of the anti-poverty thrust of development planning in Sri Lanka had not been able to prevent growing unemployment or to promote rapid, self-reliant economic development. Further, the experience of China appeared to suggest that industrialization based on mutual support between agriculture and industry, on optimum utilization of locally available natural resources, mobilization of wastes for productive purposes, and integration of large-scale city-based modern plants and medium- and small-scale plants in towns and rural areas using innovative technologies, could effectively lead to socio-economically satisfactory and environmentally prudent development.

55. The Seminar felt that the objectives of industrial development were invariably multiple. In order to achieve simultaneous gains in respect of sustained economic well-being of the people and improvement in the quality of their environment, it was essential that the issues of scale and technology of industrial production, and the location and spatial spread of that production, were resolved in a planned manner, based on an evaluation, in a unified framework, of the social costs and benefits of the options involved.

56. It was generally agreed that considerations of natural resource development and management needed to be systematically made part of the framework of development planning. Assessment and monitoring of natural resource availability and their geographical spread were important prerequisites for that purpose. It was also necessary to identify techniques and blueprints in various lines of production that would facilitate the attainment of environment and development goals in an integrated manner. There was no question of rejecting large-scale capital-intensive urban-based industry as an inappropriate

/alternative

alternative. Moreover, it was by no means necessarily the case that small-scale industry was always less energy-intensive or pollution-causing.

57. It was felt that the experiences of the planned economies of China and the USSR indicated that spatial planning of industrial development could serve as an effective instrument to reduce interregional disparities within countries, productively tap unused resources, accelerate agricultural development and actively involve people in the development process. In that connexion the Seminar emphasized that it was necessary to promote the development of small- and medium-sized towns and restrain the environmentally undesirable growth of large urban centres. However, those policy questions had to be approached in the larger framework of rapid and sustained socio-economic development of the country as a whole. That required productive transformation of both agriculture and industry, all over the country. In the calculus of decision making on location, scale and technology, the usually unprovided-for costs of location in already congested areas, as well as the benefits offered by unexplored resources in the hinterland, had to be taken into account. Decisions which would appear eminently justifiable on a narrowly economic interpretation of costs and benefits would not be viable when the framework of calculation was broadened to provide for the objectives of environmentally prudent and broadly-based development.

58. Industrial units engaged in "heavy" industrial production such as fertilizers, cement, iron and steel, machinery agricultural implements and hydropower, could be many in number, geographically dispersed, and relatively small-scale in given situations, as was shown by the experience of China.

59. The great economic, social and environmental benefits of systematic integration of land-use planning and of economic development planning at the national and provincial levels were also clearly demonstrated by the experience of Japan and the USSR.

60. Apart from comprehensive physical planning, there were various instruments available for bringing that about, such as a system of licensing, of economic incentives and disincentives, creation of industrial estates, and land development by the Government on a broader front. Moreover, environmental appraisal of new industrial establishments had to be undertaken beforehand and pollution minimization adjustments in the plants had to be introduced right

at the start. In some countries of the region, that was already mandatory. Complete restraint on the use of certain kinds of land (e.g. highly fertile land) for industrialization was also a policy option.

VI. URBANIZATION

(a) Shelter

61. The Seminar had before it two background papers, entitled "Problems of shelter, sanitation, water supply and transportation in large urban areas in the ESCAP region" (DP/EDRS/11) and "Environmental improvement of marginal urban settlements, with special reference to Indonesia and the Philippines" (DP/EDRS/12).

62. The Seminar noted that providing shelter for the growing urban populations in the Asia and the Pacific region required the addition of about 36 million dwelling units at a cost of at least \$US 20 billion over the next twenty years. The magnitude of the problem and the lack of resources in most countries of the region made it impossible to achieve a solution by providing subsidized finished urban housing for everyone on the Singapore or Hong Kong model. The dominant problem of urban housing in Asia was extremely high land prices.

63. What seemed to be needed was a combination of approaches which mobilized the people's own resources, introduced further technological advances, and provided substantially more government resources. The limitations on resources required that government efforts be directed towards providing a framework within which the private sector and the informal sector housing delivery systems could operate effectively. That framework had to be developed on a community-wide basis and ought to include: (a) assured access to urban land by members of society; (b) the extension of at least minimum social services facilities and infrastructure to all communities, including slums and squatter settlements; (c) the establishment of more realistic regulations which did not exclude the housing of the poor majority; (d) the establishment, strengthening and adaptation of housing finance institutions; (e) continuing research and development in building materials, methods and design; and (f) building up on traditional or cultural points of strength, e.g. Asian people did not seem to mind so much living in relatively crowded communities which had the advantages of being close-knit.

64. The Seminar noted that although the rate of current migration from rural to urban areas was moderate, the magnitude and impact of that migration on large cities were considerable. That had led to undesirable conditions in slums and squatter settlements.

65. A dilemma faced by programmes which increased employment and incomes in urban areas was that they increased the incentives to migrate to cities. Thus the desirable approach to marginal urban settlements had to encompass policies of rural development and the development of smaller faster-growing urban areas. Such policies implied the need to encourage dispersal of industrial, commercial and government activities. Comparing the experience of two different Indian States, it was notable that higher rates of urbanization were not necessarily synonymous with more acute urban problems where urban dispersal had been more satisfactorily achieved. Another requirement of the integrated approach to marginal settlements was the need to focus on communities themselves, rather than specific types of assistance. That required the co-operation of several government departments and specialized agencies. It also required flexibility in the administrative approach to projects.

66. The Seminar took note of the fact that basic shelter was all that could be afforded in many cases. But plans and programmes had to be designed to allow for the future development or evolution of fully adequate housing for the whole society. One method to achieve that was government acquisition, development and servicing of undeveloped but promising land for residential use. That could substantially lower costs and provide wider access to serviced land. Those schemes had been carried out in nearly all countries of the region to some degree. Such "sites-and-services" projects could be designed to serve almost all income groups. Upgrading of existing slums and squatter or marginal settlements was preferable to clearance in most cases, though clearance could not be excluded as a policy alternative in specific situations. Upgrading was a more economical alternative to rehousing and, if carried out with integrated socio-economic as well as physical environmental improvement, it could initiate a process that resulted in adequately housed, legitimate, residential communities, that were even aesthetically satisfactory.

67. By concentrating essentially on publicly provided factors such as land, social infrastructure and services, the framework for solving the urban housing problem could be established with the resources currently available. Those resources had to include people's own efforts, local and national government planning, finance and services, and financial support and technical co-operation

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from international agencies. Original financing methods were required and examples were cited in the case of Indonesia and the Philippines. A private scheme in the Philippines involved participation by both employers and employees and extended loans at preferential rates at community levels as part of a UNEP-assisted marginal settlements improvement programme. Credit co-operatives had been established to mobilize savings and provide flexible financing for home improvement and small businesses. With the current levels and planned expansion of financial support from the World Bank and the Asian Development Bank, and the recent trend towards more realistic assessment of government limitations in providing finished housing, the Seminar felt that it ought to be possible to solve the most serious problems of urban shelter in most of the countries in the region within the next twenty years.

68. The Seminar made some specific suggestions for consideration by government policy makers:

(a) The provision of access of the poor to urban land in many different ways: direct state acquisition, tax policies and regulation, and control of certain rights over land;

(b) The establishment of maximum standards for urban housing in addition to minimum standards, and of ceilings on housing space and other urban real estate such as has been introduced in Sri Lanka. Minimum standards in respect of safety, durability and public health were, of course, pertinent as well;

(c) Concentration on single-family, high-density, low-rise housing could be an alternative to mid-rise, multifamily housing from the socio-economic, cultural and environmental viewpoints. It was also necessary to maintain focus on the community as a whole to develop smaller-sized individual projects.

(d) The participation of the proposed beneficiaries in decision making was essential in planning implementation and management of communities. The views of different groups (including men, women, the

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young, and the aged) should be sought to ensure that the proposed housing and community facilities met real needs;

(e) Minimization of subsidies, not only to reduce the burden on the Government, but also to reduce incentives for misallocation and make it possible to extend services to a larger number;

(f) Integrated, on-site, socio-economic and physical improvement programmes for marginal settlements, such as those introduced with UNEP assistance in Indonesia and the Philippines, made it feasible to completely transform communities without significant socio-economic or physical dislocation. Such programmes seemed to be the cheapest and most effective way to resolve the housing and environmental problems of the existing slum and squatter settlements;

(g) Requiring employers in urban industries to contribute towards the provision of housing and community services and facilities for their employees;

(h) The setting of minimum quotas of land for low-income people;

(i) Instituting controls and economic disincentives on migration to already congested urban areas and diverting such migration to small-sized towns.

69. Participants were unanimous in the view that urban housing problems in Asia could not be solved in a durable fashion unless there was a healthy balance in the economic development of rural and urban areas. It was also agreed that the actual forms of solution had to be situation-specific. Urban development also had to be integrally related to over-all goals of national development.

(b) Water supply and sanitation

70. It was noted that only a small proportion of urban dwellers in the developing countries of the region had access to public water and sanitation facilities. The poor access to satisfactory facilities was largely caused by the unrealistic standards adopted, in addition, of course, to ignorance of basic health-promoting practices. It was clear that the costs of providing such facilities on a comprehensive basis

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would be prohibitive if, as in the past, mainly Western-type public water distribution and sewerage systems were adopted. In addition to requiring substantial capital outlays, such systems needed highly trained personnel to operate them. High costs were also due to the current practice of subsidizing public water supplies.

71. It was vitally necessary to seek alternative water supply and sanitation systems, but there were many problems. If individual deep-water wells were sunk, resulting in excessive withdrawal, there was a danger of the water table under cities falling, and land subsidence occurring, as in Bangkok. If wells depended on pumps, those had to be adequately maintained. The more expensive alternative to wells might have to be continued reliance on surface water, despite the danger of contamination.

72. Existing methods of sanitation based on septic tanks were associated with dangers of seepage which contaminated water supplies. An appropriate technology of sewerless water treatment was required. Septic tanks should be more adequately sealed, and filters provided to allow more efficient decomposition. A promising development was the commercial use of recycled wastes and a brief description was provided of how such wastes could become the feedstock for large-scale aquaculture. Human wastes could be recycled in such a way as to provide sources of high-protein fish food efficiently and cheaply.

73. Various projects using recycled wastes for aquaculture were described, from various parts of the region. One of the most important obstacles to their feasibility in some countries was the risk to human health of consuming fish bred on human wastes. However, it was pointed out that to reduce the risk of pathogen transfer and to make the systems more socially acceptable, wastes were to be passed first through oxidation ponds in which algae fed, and the algae were, in turn, consumed by fish.

74. The participants observed that in terms of alternatives in respect of sanitation and water, the factor of social acceptability had to be carefully considered. Some alternatives which appeared environmentally sound might not be acceptable to people on religious or cultural grounds. For example, compost toilets might not be acceptable everywhere. Moreover, fish cultured on human wastes might not be accepted as food by people, though the experience of some countries indicated that the latter might not be an insurmountable problem.

75. The participants expressed the view that in Asia the problem of access to safe water was of much greater magnitude in rural areas than in urban areas.

(c) Transportation

76. It was emphasized that the increase in numbers of motor vehicles in the region in recent years had been substantial, and that there were high concentrations in capital cities and large urban areas. Judging from the growth performance of many developing countries further large increases could be expected, in the absence of policies inhibiting private automobile ownership (e.g. through higher domestic prices), which had been the policies of some countries in the region, notably India and the Republic of Korea. If unchecked, the association of affluence with urbanization and motorization would severely exacerbate the problems of urban congestion. Some cities of the region were already trying to cope with amounts of automotive traffic equivalent to the most motorized cities in the United States of America, but with far less roadway capacity. The problems were made worse for pedestrians by the use of pavements by vendors, and vehicle movement was impeded by failure to reserve road space for different types of vehicles. Congestion dissipated time and energy, and made life in the urban environment constrained and laden with needless costs.

77. It was felt that some lessons could be learnt from the experience of developed countries, for example through better engineering of intersection controls, allowance of concessions in tolls for private automobiles carrying more than a certain number of passengers, reservation of traffic lanes for certain categories of vehicles and restrictions on heights of buildings in new urban development.

78. The discussants felt that there would have to be a shift in favour of public transportation, including the introduction of luxury public buses to suit middle-class commuters. However, it was felt that a continuing important role would have to be played by communal, but privately-owned, transportation modes such as mini-buses and pedicabs. It was thought that bicycles would not generally provide an attractive alternative mode of transportation unless special lanes were reserved for them.

79. Solving transportation problems had much in common with solutions to other urbanization problems, requiring consideration of the design of urban settlements as a whole. It would be necessary to discourage the establishment not only of new industrial enterprises but also of commercial and financial

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institutions in large urban areas, and perhaps encourage the development of middle-sized urban areas and towns whose growth was stagnating. In that connexion, it was pointed out that the existence of marginal human settlements in large urban areas helped to minimize transportation problems because they ensured the proximity of employment and residential areas. It was also important to promote values and preferences that would result in people voluntarily choosing more environmentally prudent means of transport.

VII. METHODOLOGICAL AND INSTITUTIONAL CONSIDERATIONS

80. The Seminar had before it three background papers: "The environment and development planning: methodological and institutional aspects" (DP/EDRS/14), "Environment and development planning in Thailand" (DP/EDRS/15), and "The incorporation of environmental considerations in planning in Papua New Guinea" (DP/EDRS/16).

81. The Seminar emphasized that the topic was fundamental to the whole area of thinking on environment and development planning. It was, of course, important to design concrete alternatives that were environmentally sound. But analyses of issues were not adequate unless translated into some consistent methodology and approach and carried into practical decision making in the development process. In some countries, there was still some way to go before the urgency of environmental and resources management satisfactorily permeated national development planning on a comprehensive basis. The Seminar noted that environmental considerations were being incorporated into project planning and appraisal on an ad hoc basis, particularly in the sphere of such natural resources as forestry and mining.

82. It was also noted that in some countries rates of economic growth were becoming constrained by depletion and degradation of natural resources. However, environmental considerations should not imply non-use of resources and environment assessment exercises should not be construed as negative. Rather the need was for optimization. Examples were cited to illustrate specific aspects of a more optimum approach, such as the use of wastes as the sole source of energy in the palm oil industry of Malaysia and the potential use of fish silage, which was normally a pollutant, as feedstock.

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83. It was important to give a role to the idea of resource balance sheets in national accounts and in national planning. Quantification would greatly assist economic planners to introduce environmental management into development planning. It was also felt that environmental assessment might be specifically incorporated into the budget review process as a useful tool in advancing environmental arrangement.

84. The Seminar stressed that the main methodology being utilized in practice to take environmental considerations into account for individual projects was the environmental impact assessment approach. The complexity of that approach was strongly emphasized as well as its tendency to be over-bureaucratic and expensive in terms of resources and skilled manpower (which was generally lacking in developing countries). The Seminar was informed of work being undertaken by UNEP on an alternative assessment system, the results of which would be available in the near future, that would be more resource-use-based in its evaluation, less bulky, more development-planning-related and, possibly, more oriented towards decision-making.

85. The Seminar also noted that increasing attention was being paid to integrated management systems in specific ecological locations. In Thailand, the National Environment Board (NEB) was also pursuing investigations into certain particularly fragile and valuable ecosystems (e.g. Songkhla Lake) with a view to their protection and enhancement. That country was also pursuing a package approach at the planning stage in connexion with water resources involving co-operation between NEB, the National Economic and Social Development Board (NESDB) and other agencies. The possibility was considered of moving eventually towards a unified assessment of environment and development which would extend the use of cost-benefit analysis to encompass environmental considerations.

86. The Seminar noted the experiences of several countries of the region, including the developed countries, with regard to institutional and legislative arrangements. In general it was felt there was an inadequacy of institutional and legal measures to ensure proper environmental planning, on the part of both specialized environmental agencies and national planning bodies. The question of the responsibilities of the party executing a project was discussed; in some countries, the executing parties were responsible for carrying out their own environmental assessment exercises, but some doubts were expressed about

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whether such a practice ensured adequate objectivity. In regard to the "polluter-pays" principle of regulation, the view was expressed that penalties might have to be imposed on a progressive basis in order to discourage pollution-increasing activities more effectively.

87. The Seminar laid great stress on the fact that environmentally prudent planning could not rely solely on a centrally administered process, but that there also had to be effective participation in the early stages of planning by those affected by it. In that connexion, the Seminar emphasized that due attention should be paid to prevailing life-styles in order to maintain, as far as possible, traditionally harmonious relationships of societies with ecosystems. The issue of the need for popular participation and the difficulty of legislating in some cases was raised in connexion with projects of which the implementation clearly provoked conflicts of interest. The example of a new hydropower scheme in south India was cited where the potential beneficiaries were opposed to those who felt that the damage to the natural environment was unjustifiable. It was noted that in Indonesia, decentralization of the planning process was taking place through regionalization and that the serious inadequacies of skilled and technical personnel were being met, at least in part, by drawing on the staff of regionally-situated universities.

88. The Seminar concluded that institutional structures had to take account of the many facets of environmental considerations since individual projects involved resource implications in fields of jurisdiction presided over by several separate government ministries and departments. The Seminar noted with interest the institutional structure that prevailed in China, in which many separate interest groups were encompassed.

VIII. ENVIRONMENT AND DEVELOPMENT IN INTERNATIONAL PERSPECTIVE

89. The Seminar had before it two main background papers: "The impact of environmental policy in developed countries on the trade of developing countries in the ESCAP region" (DP/EDRS/13); and "Development and environment considerations in preparing an international development strategy for the third United Nations development decade" (DP/EDRS/18).

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90. The Seminar felt that the international context influenced strongly the nature and seriousness of environmental-developmental problems within countries. Consequently, it was crucial, even as the search for alternatives went on at national and subnational levels, that changes should be effected in the international framework to bring about desired results. That was apparent from the historical causation behind many problems encountered in developing along environmentally prudent ways in the region.

91. In many countries, large-scale environmental devastation, and the crippling of the capacities of countries to develop, had resulted from wars. Further, much as low-income countries urgently needed international access to scarce natural resources for their development, those resources were diverted to countries with already resource-intensive and energy-intensive life-styles. Some countries could not succeed in their effort at environmental management for development, as the needed full co-ordination of effort with other countries was not forthcoming. That was true, for example, in respect of control of desertification, minimization of incidence of droughts, control of floods and management of large river basins, and rational management of tropical forests.

92. In several countries, operations of transnational interests in logging, mining, industry, and agriculture had resulted, directly or indirectly, in serious environmental degradation. Further, there was the question, from the standpoint of poverty alleviation, as well as preventing land degradation, of substitution of commercial monoculture of export crops in place of food crops for domestic consumption. While the developing countries did not have full control over the import of environmentally hazardous or harmful substances, their access to the markets of developed countries for agricultural exports in particular was circumscribed on account of the stringent environmental standards adopted in developed countries.

93. There were also some opportunities, not yet fully explored, to mobilize international economic relations in the simultaneous pursuit of economic development and environmental improvement. Prominent examples of those were the following:

(a) International technical and economic assistance from developed countries for programmes of natural resource assessment, monitoring, augmentation and management;

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(b) Exchange of knowledge and technical co-operation for pollution-abatement and waste-recycling technologies among countries;

(c) Technical and economic co-operation among countries of the region for evolving alternative environmentally prudent approaches to development, e.g. biogas technology, waste recycling and fish culture, integrated planning of small towns and villages, and of regional economic development and human settlements development, within countries.

94. The Seminar felt that environment-related issues such as the management of the global commons or a code of conduct for transfer of technology, international trade in hazardous substances, and exploitation of living marine resources in the high seas, were already being discussed comprehensively in other international forums. Consequently, it was not appropriate for the Seminar to express opinions on those subjects.

95. It was observed, however, that there was a significant role for international agencies, including ESCAP, and for the regional offices of United Nations specialized agencies such as FAO, to promote multinational projects in the region, involving training, education, technical assistance, research and monitoring, in respect of problems such as overfishing in identified parts of the high seas and flood and salinization control. FAO and UNDP had already initiated regional projects on land and water involving, inter alia, organic recycling with special emphasis on biogas and technical co-operation on water management and agricultural extension among 10 countries in Asia and the Pacific. Moreover, such organizations could act as clearing-houses of information to assist developing countries, provide technical expertise and fund specialized regional studies. Further, at the regional level surveys of development should integrally include assessment and monitoring of national resources.

96. The view was expressed that the flow of international assistance should increase as the developing countries gave priority to development projects which were environmentally prudent. The Seminar felt, however, that what was environmentally prudent should be determined by the developing country concerned, in consultation with the development assistance agency in question. In any case, assistance should not be made conditional on sound environmental management, where the "soundness" was determined by an outsider. It was noted that already several development assistance agencies were adjusting their policies to take environmental considerations into account. At the national level,

Indonesia had made a systematic attempt to elicit from donor agencies their requirements of environmental analyses for development assistance. It was emphasized that development assistance policies should help build the required assessment expertise within the recipient countries.

97. It was argued that although it was true that widespread poverty led to environmental degradation, it would be wrong and distortive if development assistance were to be geared solely to poverty alleviation per se. The entire development plan of a developing country, including the attention given to key industrial sectors, could be geared to the alleviation of poverty. Consequently, development assistance should be given to the overall planned development effort, taking into account situation-specific environmental standards and approaches.

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LIST OF DOCUMENTS

- DP/EDRS/1 An empirical overview of environment and development:
Asia and the Pacific
- DP/EDRS/2 Environment and development
- DP/EDRS/3 Interrelations among population, resources, environment
and development in the ESCAP region, with special reference
to Indonesia
- DP/EDRS/4 Approaches to land management in the ESCAP region
- DP/EDRS/5 Environmental problems and the organization of development
in the arid lands of south-west Asia
- DP/EDRS/6 Integrated approaches to water resources management in rural
areas in the ESCAP region
- DP/EDRS/7 A case study of the Pa Mong project (Thailand): environmental
aspects
- DP/EDRS/8 Economics and sociology of alternative energy sources
- DP/EDRS/9 Programmes of environmental improvement at the community level:
Bangladesh, Indonesia and the Republic of Korea
- DP/EDRS/10 Industrial development strategies and rural-urban imbalances
in Asia: selected case studies and an overview
- DP/EDRS/11 Problems of shelter, sanitation, water supply and transportation
in large urban areas in the ESCAP region
- DP/EDRS/12 Environmental improvement of marginal urban settlements,
with special reference to Indonesia and the Philippines
- DP/EDRS/13 The impact of environment policy in developed countries on
the trade of developing countries in the ESCAP region
- DP/EDRS/14 The environment and development planning: methodological
and institutional aspects
- DP/EDRS/15 Environment and development planning in Thailand
- DP/EDRS/16 The incorporation of environmental considerations in
planning in Papua New Guinea
- DP/EDRS/17 Recycling organic wastes into fish: A development strategy
of energy conservation, pollution abatement, and food production
- DP/EDRS/18 Development and environment considerations in preparing an
international development strategy for the third United Nations
development decade
- DP/EDRS/19 Physical pollution of Iran's environment (Iran)
- DP/EDRS/20 The Mahaweli development scheme, the free trade zone and
the environment (Sri Lanka)

- DP/EDRS/21 Songkhla Lake basin development (Thailand)
- DP/EDRS/22 The south Australia river Murray salinity control programme (Australia)
- DP/EDRS/23 A case study of the Pamir wild life reserve in Afghanistan (Afghanistan)
- DP/EDRS/24 Socialist planning and national utilization of natural resources and protection of the environment in the Uzbek Republic (USSR)
- DP/EDRS/25 Some examples of road environmental countermeasures in Japan (Japan)
- DP/EDRS/26 Test model for environmental assessment
- DP/EDRS/27 National land development and protection of environment (Japan)
- DP/EDRS/28 Critique on paper "Approaches to land management in relation to food supply needs in the ESCAP region" (Malaysia)
- DP/EDRS/29 Environmental planning in the Indian power programme (India)
- DP/EDRS/30 Ecological problems in the development strategy of countries of Asia and Pacific (USSR)
- DP/EDRS/31 A case study in land use: East Cape-Poverty Bay Region, New Zealand (New Zealand)
- DP/EDRS/32 Development planning and the environment (Indonesia)
- DP/EDRS/33 Biogas utilization and comprehensive development in China (China)
-