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REPORT ON THE ENVIRONMENTAL SITUATION IN THE OCCUPIED PALESTINIAN AND OTHER ARAB TERRITORIES

Report of the Executive Director

I. INTRODUCTION

A. Legislative Authority

1. The Governing Council at its fifteenth session considered the report of the Executive Director on the environmental situation in the occupied Palestinian and other Arab territories (see UNEP/GC.15/5/Add.2) and adopted decision 15/8, entitled "The environmental situation in the occupied Palestinian and other Arab territories", which in paragraphs five and six respectively, states that the Council:

"5. Considers that the report of the Executive Director is inadequate and that it must be updated and the information it contains corroborated, which requires the formation of a group of consultants specialized in environmental problems, with a mandate to prepare a comprehensive report on the environmental situation in the occupied Palestinian and other Arab territories, making use of relevant data and information from sources provided by the population of those territories, as well as by States and regional and international organizations concerned";

"6. Requests the Executive Director to submit to the Governing Council at its sixteenth regular session a comprehensive report based on the findings reached by the group formed in accordance with paragraph 5 above."

B. Development of the report

2. In order to develop the report, the Executive Director drew on the experience of a group of consultants, in accordance with paragraph 5 of Council decision 15/8. The composition of the group is given in annex II.

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3. The plan for collecting data and relevant material for the report was two-faceted:

- Determination of the areas that should be covered by the report and distribution of a questionnaire to all those concerned, as specified in paragraph 5 of decision 15/8;
- Visits to the area, countries and specialized agencies concerned to supplement the information, if any, received in the replies to the questionnaire.

4. Accordingly, on 8 November 1989 the Executive Director sent out a note to the following countries and organizations:

- (a) Egypt;
- (b) Israel;
- (c) Jordan;
- (d) Syrian Arab Republic;
- (e) Palestine Liberation Organization, in Tunisia;

(f) United Nations organizations: the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organisation (ILO), the World Health Organization (WHO), the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), and the United Nations Educational, Scientific and Cultural Organization (Unesco).

5. The note sought information from the above-mentioned countries and organizations concerning the following areas:

- (a) An overall review of the environmental conditions in the Palestinian and other occupied Arab territories;
- (b) Health conditions of the inhabitants of the territories;
- (c) Education, availability of institutions and the conditions prevailing therein;
- (d) Population density and availability of habitable dwellings;
- (e) Agriculture, in terms of availability of arable land, water resources for both drinking and irrigation purposes, as well as the general agricultural situation;
- (f) The environmental conditions in factories and work places;
- (g) The prevailing environmental conditions in prisons and detention camps;
- (h) Institutions and legislative arrangements dealing with the environment in the occupied territories and the role, if any, of the local municipalities in that field;
- (i) Measures taken by the occupying power that have led to the improvement or degradation of the human and natural environment in the occupied territories.

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6. Israel did not respond to the Executive Director's note. No consultant was able to visit the occupied territories. Thus, no data were officially received or collected from Israel outlining the Israeli position because none were sent.

7. A consultant paid brief visits to Egypt, Jordan, Syrian Arab Republic and Tunisia during the period 20 May - 8 June 1990. A preliminary report based on the consultant's visits was presented to the group of consultants referred to in paragraph 2 above at a meeting that was held in Nairobi from 21 to 23 November 1990.

8. The group recommended that a consultant be requested to pay further visits to the following specialized agencies for the purpose of supplementing the information gathered earlier: Unesco, UNRWA, ILO, WHO, and FAO. The visits took place during the period 4-19 December 1990. Subsequently, a revised report was prepared by the consultant and one member of the expert group. To review the revised report the group of consultants met again in Nairobi during the period 7-9 March 1991. The present report of the Executive Director is based on the revised report of the group of experts.

II. THE NATURE OF THE ISSUES

9. The preservation and enhancement of the environment is increasingly drawing the attention of countries and Governments. Developing countries especially are facing difficulties in generating amongst their citizens an awareness of the importance of protecting the environment and wisely managing its resources. The efforts of these countries, limited as they may be, are further curtailed by a wide range of factors, both internal and external, e.g. unfair terms of trade and commodity prices, debt burden, meagre resources, lack of trained personnel, civil strife and armed conflicts and irrational development strategies. Therefore, it is imperative for any report on the environment to take these factors into consideration. In the case of the territories covered by the present report, the problems have been exacerbated by the fact that the territories have been subject to foreign occupation for over twenty-three years.

10. In light of the above, it was felt that, in preparing the report, there was a need to take into account the extent to which and the manner in which official policies and practices of the occupying power, as well as actions by individuals or communities within the occupied territories, have affected the environment and the quality of human life.

11. The task of obtaining data for the report that is both relevant and indisputably objective has not been easy. Apart from official reports issued by a few United Nations specialized agencies and other international bodies, most of the published information on the Palestinian and other Arab territories under Israeli occupation tends to be concerned with the political, historical and juridical aspects of the question and rarely deals directly with environmental aspects that affect human life. Really pertinent data on environmental issues can be found mainly in official publications emanating from the occupied territories, as well as from Israel itself, but invariably the problems involved are discussed from the particular viewpoints of the authorities and groups concerned, with the result that any information provided and conclusions drawn by any one side - Israeli or Palestinian and Arab - are frequently disputed by the other. Yet another problem is the difficulty in obtaining detailed and specific official information on the occupied territories, especially in matters concerning their relationship with Israel, owing to the fact that officially the territories do not enjoy a recognized international political status and much of the potentially useful data relating to them is consequently merged or obscured in data on Israel,

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which in its official publications is generally reluctant to offer any information that might lend support to the suggestion that they are separate political entities in relation to Israel's own boundaries as defined in 1949.

12. Under these circumstances, the group of consultants who prepared the basic material for the report have been obliged to cull material from a wide range of sources that appeared reasonably authoritative. Their advice was to present the findings in such a way as to make available to the reader as many different viewpoints as possible on the issues discussed in the present report.

Geographical characteristics of the territories

13. The territories that form the subject of the present study are Gaza, the West Bank and the Golan Heights. Gaza is in the low-lying coastal plain of the eastern Mediterranean in the south-western quadrant of Israel, north of El Arish, Egypt. It has a total area of 360 square kilometres, with a coastline of 45 kilometres and a width of 8 kilometres. The annual rainfall is between 200 mm in the south and 400 mm in the north; the soil consists of alluvial sand formed over loess which in turn overlies the coastal aquifer, the principal source of water. The administrative centre is Gaza City.

14. The West Bank, which covers an area of 5,500 square kilometres, extends from the east bank of the Jordan River and the northern end of the Dead Sea to the hill country occupied by Nablus and Ramallah in the north and Jerusalem, Bethlehem and Hebron in the south. The annual rainfall ranges between 400 and 700 mm, with the highest figures generally occurring in the highlands.

15. The climate of the territories is of the eastern Mediterranean variety with a long, hot dry summer from April to November, and a short, cool wet winter from December to March.

16. Population figures vary slightly from one source to another, but according to the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) the population for the West Bank as of 30 June 1989 is estimated at over 850,000 while that of the Gaza Strip is over 600,000. These populations are estimated to be growing by 2.5 per cent per annum for the West Bank and 3 per cent per annum for Gaza.

17. The Golan Heights (also known as Qunitra Province) lie in the south-western region of the Syrian Arab Republic, covering an area estimated at 1,800 square kilometres and with a population of approximately 200,000 (at the time of its occupation by Israel in 1967). The soils are volcanic and highly fertile, and the annual rainfall ranges from 500 mm in the south to 1,000 mm in the mountainous north. Following the disengagement agreement between Israel and the Syrian Arab Republic, the area occupied by Israel was reduced to 1,200 square kilometres and the population to only 15,000. Like Gaza and the West Bank, its climate is Mediterranean, but is less exposed to the influences of the sea.

III. SPECIFIC ISSUES OF CONCERN

18. Just as the environment is indivisible, so also the range of components in it forms a wide continuum, in which the individual elements need to be considered in terms of their mutual inter-relationships. However, in the circumstances in which the occupied territories at present find themselves, it is necessary to focus attention on certain specific issues which are of particular relevance to the enhancement of the quality of life of the population of these territories. A number of these issues are mentioned in decision 15/8 of the Governing Council and therefore, much as the present report aims at being comprehensive, the main emphasis will be on these issues.

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A. Land and water

19. Land and water are very scarce resources in the occupied territories. Accordingly, their availability is a matter of crucial importance to life and human existence.

20. According to FAO, the total arable land in the West Bank and Gaza is estimated at 200,000 hectares and 18,680 hectares respectively, which, on the basis of the 1989 population, works out to 0.24 hectares per person in the West Bank and 0.03 hectares per person in Gaza. The comparative figures for Egypt, Jordan and Israel are, respectively, 0.05, 0.36 and 0.9 hectares per person.

21. In the pre-1967 period only 30 per cent of the land area of the West Bank was considered potentially cultivable. In Gaza, agriculture is more intensive. In the pre-1967 period, 46,750 hectares were cultivated, of which two-fifths were irrigated, the principal crop, then as now, being citrus.

22. For an area where agriculture is so important the above-mentioned figures appear low. But the situation is rendered even more serious by the fact that some of this land has been taken over for government purposes and Israeli settlements. The exact area involved is not clear, but, according to a Jordanian source, (13) in the period between 1967 and 1988 around 52 per cent of the land in the West Bank and 30 per cent in Gaza was appropriated for Israeli use. As far as the West Bank is concerned, this is confirmed by M. Shadi and R. Seltzer in an article in the Middle East Journal Vol. 42, No. 1, 1988, which quotes M. Benvenisti on the West Bank Data Project 1984. However, the figure quoted for Gaza in the article is 42.3 per cent. (20) The West Bank Data Project in Jerusalem puts the land appropriated by Israel in both the West Bank and Gaza at 52 per cent. These encroachments have inevitably resulted in a major diminution of arable land available to the Palestinian inhabitants, especially in Gaza. In the almost complete absence of natural surface sources, water needs are met mainly from the existing aquifers. The availability of water for agricultural and human use has been put under serious stress through overuse and misuse.

23. According to information obtained from Palestinian and Jordanian sources, (13,14) - there has been excessive and unfair extraction of water from the limited resources in the occupied territories into Israeli settlements as well as into Israel itself, leading to serious shortages and salinization. However, this appears to be a long-standing problem in Gaza, and it has been suggested by Israeli sources that over-extraction was even worse before 1967, as a result of the rapid expansion of the area under citrus. (21)

24. According to Dr. Joyce Starr, in an article in the March 1991 issue of Foreign Affairs, the problem lies in the main mountain aquifer which underlies the West Bank and Israel. Israel presently draws heavily on the aquifer for agricultural and other uses, while the Palestinian farmers wish to draw an increased share for irrigation. Dr. Starr states: "Palestinian experts generally acknowledge that Israel provides requisite water to the West Bank for domestic and industrial use. They nevertheless claim that Israel refuses sufficient water for agricultural expansion, which is viewed as the life-force of economic viability for the territories. Israel authorities respond that agriculture has been the primary culprit draining the aquifer's resources ... Israel is laying pipes to pump water to the Gaza Strip from its own resources". Dr. Starr goes on to observe that the main problem now is drought and offers a programme to deal with the water needs of all in the region.

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25. The shortage of water and its low quality, especially in Gaza, has also been noted by FAO in its response to the Executive Director's note of 8 November 1989 mentioned in paragraph 4 above. The relevant passage from the reply of the Director, Office of Inter-Agency Affairs, FAO, reads:

"The water supply is one of the main problems in the occupied territories, particularly in the Gaza Strip, where a report prepared in March 1987 by Mr. John Miles, UNDP consultant, specifies: 'The deficiencies in the arrangements for disposing of sewage and other effluents and the need to improve water supply systems to rural villages pose serious health problems. The situation in the Gaza Strip is of particular concern. Exposed and resurfacing sewage is an immediate health hazard and leakage into the aquifers, already over-pumped and increasingly saline, further endangers the water supply.'"

26. The same problems have also been acknowledged in a similar reply from the Director of the Programme of Assistance to the Palestinian People in UNDP, who indicated the measures undertaken by UNDP during the past decade to ameliorate the situation. This reply states:

"I can confirm that during the past decade of activities in the occupied territories, UNDP has been highly conscious of seeking to ensure sustainable and environmentally positive development. In this regard UNDP's largest projects in the Palestinian occupied territories involved water supply and sanitation. In the Gaza Strip considerable progress has been made in the elimination of open sewage reservoirs and in the West Bank drinking water has been supplied by UNDP to scores of villages which were formerly unserved".

27. In an Israeli publication entitled *Judaea, Samaria and the Gaza District, 1967-1987: Twenty Years of Civil Administration* (29) Israel acknowledges that sanitation problems have existed in Gaza and the West Bank, but some projects have been completed and others are under way for improvements in sewage treatment, water supplies and garbage disposal.

28. Another aspect of the issue of water is the relatively high amount consumed by Israeli settlers, as compared with the indigenous Palestinians. According to the report of the Director-General of ILO presented to the International Labour Conference at its seventy-seventh session in 1990, a Jewish settler consumes between 85 and 90 cubic metres of water per year for domestic use, while an Arab inhabitant consumes between 35 and 45 cubic metres for the same purpose. Among other things, this is an indication of the differences in the standards of living and life-styles of the two groups.

29. One obvious cause of the high per-capita consumption of water among the Israeli population is the widespread use of water-borne sewage systems in domestic establishments. While such systems are generally regarded as standard among Israeli communities, cess-pits are still widely used among the Palestinian and Arab populations in the West Bank and Gaza, especially in the latter. (24) But a basic condition for water-borne systems is the availability of running water in domestic establishments and the ability to meet the cost of installations.

30. According to a study of agriculture and water resources in the West Bank and Gaza for the period 1967-1987, carried out by the West Bank Data Project in 1987, it would appear that the Israeli settlements in both the West Bank and Gaza certainly use more water per head than the Palestinians, mostly for irrigated farming (see annex I). (23)

31. The state of sanitation in the West Bank and Gaza may be compared with the situation in both Egypt, which adjoins Gaza, and Jordan, which formerly administered the West Bank, as well as in Israel. In Egypt and Jordan the

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provision of safe water, according to a recent WHO Health Statistical Tables study, (26) covers, respectively, 75 per cent and 97 per cent of the population, while the provision of adequate sanitation covers 98 per cent in Jordan but only 42 per cent in Egypt. The corresponding figures for Israel are 99.8 per cent for safe water and 98.3 for sanitation facilities.

32. According to the already-cited Israeli Ministry of Health report for 1989-1990, (21) arrangements for sewage collection in urban centres in both the West Bank and Gaza were unsatisfactory before 1967. However, since then extensive improvements and modernization projects, including the expansion of water supplies to homes, have been set in motion. In Gaza, plans are also afoot for recycling water from improved treatment plants for use in local agriculture, notably citrus orchards.

33. In the West Bank it is again stated by Israel that, thanks to the expansion of community water supplies, domestic water consumption has been increased from 5 to 25 cubic metres per capita in rural areas and to 75 cubic metres in urban areas. Similarly, running water in the rural areas was available to 61.6 per cent of homes in 1985, as compared with only 23.5 per cent in 1974, with corresponding improvements in hygiene and health standards.

34. It is also stated by Israel that in Gaza all categories of human settlements are now provided with safe drinking water, following the linking of the water system to the Israeli national network in the 1970s. By 1985 running water was available to 75.1 per cent of homes in the area, as compared with 13.9 per cent in 1974.

35. These are conflicting claims and counter-claims. But what is obvious is that measures need to be taken to ensure the availability of water and improvements in its quality for the entire population. Also, encroachments on the limited land available to the indigenous population should be stopped, in order to guarantee a healthier living environment for them.

B. Human settlements and housing (including refugee camps)

36. An outstanding feature of life in human settlements within the region is instability and lack of security. This has been particularly so since the beginning of the intifadah in 1987.

37. The human settlements fall into three categories: townships, rural settlements and camps. According to a Jordanian source, (13) an Israeli census conducted in the West Bank in 1967 indicated that 29.1 per cent of the population lived in townships, 64.6 per cent in rural settlements and 6.2 per cent in camps. In Gaza, refugees living in camps constitute 75 per cent of the population, with the remaining 25 per cent living in urban and rural settlements. The same source also gives the number of Israeli settlements established in the West Bank over the period 1967-1988 as 170 settlements in the West Bank and 20 more in Gaza, containing a total population of 80,000, and it is intended that this will rise to 100,000 by the end of the present decade.

38. According to the 1988 and 1990 reports of the Director-General of ILO, (10) 7,500 of these settlers are in the Golan Heights, while 63,600 are in the West Bank, excluding East Jerusalem, and 2,700 are in Gaza. The resulting land/population relationships can be seen from the table below, derived from the same report:

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| | <u>Area</u> (in sq. km) | <u>Population</u> | <u>Density</u> (per sq. km) |
|----------------------------------|----------------------------|-------------------|--------------------------------|
| <u>Israel</u> | 21 501 | 4 476 800 | 208.2 |
| <u>West Bank</u> * | 5 500 | 982 600 | 178.65 |
| (a) Area under Israeli control | 2 860 | 63 600 | 22.24 * |
| (b) Palestinian and Arab areas | 2 640 | 919 000 | 348.1 * |
| <u>Gaza</u> | 362 | 617 700 | 1 706.35 |
| (a) Area under Israeli control | 152 | 2 700 | 17.8 |
| (b) Palestinian and Arab areas | 210 | 615 000 | 2 928.6 |
| <u>Golan Heights</u> * | | 24 200 | 20.16 |
| (a) Area under Israeli control) | 1 200 | 9 600 | - * |
| (b) Arab areas) | | 14 600 | -* |

* (Separate figures for Golan Heights are not available for areas occupied by Israelis and Palestinians/Arabs. The source notes that the statistical data are not uncontested. Figures for the West Bank are based on the assumption of a 52 per cent appropriation by Israel).

39. By comparison with the Israeli settlements, the Palestinian and other Arab areas in the West Bank and Gaza, especially the latter, are greatly overpopulated. In contrast, overall population densities in the two adjoining Arab States, Jordan and Egypt, are only 39 and 53 persons per square kilometre, respectively, although a large part of the total areas of these two countries is very sparsely populated, because of their desert or very arid nature.

40. According to the ILO report for 1990, (10) the Israeli population in the Golan Heights has been steadily increasing at the expense of the Arab population, whose traditional methods of agriculture and animal husbandry are therefore seriously undermined.

41. The establishment of these settlements constitutes a serious encroachment on land which could otherwise have been used by the Palestinians for meeting their own residential, agricultural or other requirements. These encroachments, coupled with what the Palestinians refer to as the systematic demolition of their dwellings in both urban and rural settlements by Israel, on the pretext of security or essential development, have led to overcrowding in most areas of the occupied territories, with all its attendant negative environmental consequences. Between 1967 and 1987, the Palestinians estimate that some 25,000 dwellings were demolished in the West Bank and Gaza. These reports have been substantiated by actual lists of the owners of the dwellings affected and their location. However, according to Israeli sources, (21) homes with fewer than three persons per room have increased from 46.5 per cent in 1973 to 68.3 per cent in 1988 in the West Bank and from 47.9 per cent to 64.2 per cent in the Gaza Bank.

42. The establishment of Israeli settlements in the occupied territories has necessarily led to the closure of large areas of land to use by the Palestinian and Arab communities, who consider themselves the rightful owners

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of such lands, thus compelling them to live and farm under overcrowded conditions. Another possible effect of these settlements is the imposition of various restrictions on the indigenous populations as a result of the complex interdigitation of their living areas with those of the Israeli settlers, who enjoy privileges denied to the Palestinians and Arabs (see figure; the ILO Director-General's Report 1990; and the Middle East Journal, Vol. 42, No. 1, 1988).

43. One of these privileges relates to land use planning. As pointed out in the Country Reports on Human Rights and Practices for 1989 issued by the United States Department of State, (16) and quoted in the ILO Director-General's Report 1990, "Palestinians are excluded from the Higher Planning Council, which draws up plans for land use in the occupied territories, and exercises certain powers transferred from local municipal and village councils in 1971, while Israeli settlers are represented on the Council. Israeli settlements also receive large annual subsidies from the Government, and individual Israelis may receive inducements to take up residence in the occupied territories". This means that, apart from the forcible appropriation of their lands by the Israeli government, the indigenous Palestinian and Arab populations are denied any effective role in determining the ways in which even those lands left for their occupation may be used.

1. Employment and industrial relations

44. As a consequence of the developments and occurrences noted above, employment openings for the Palestinians have been seriously jeopardized. Physically, they live separately from the Israelis, yet as a result of the policies and measures of the occupying power they are obliged to seek employment in Israeli areas, mainly as daily commuters.

45. The consequences of these policies are far-reaching, as clearly set out in the Report of the Director-General of ILO, presented to the International Labour Conference at its seventy-seventh session in 1990. This report, based on the findings and recommendations of two missions the Director-General sent to Israel and the occupied territories in January and February 1990, states, inter alia:

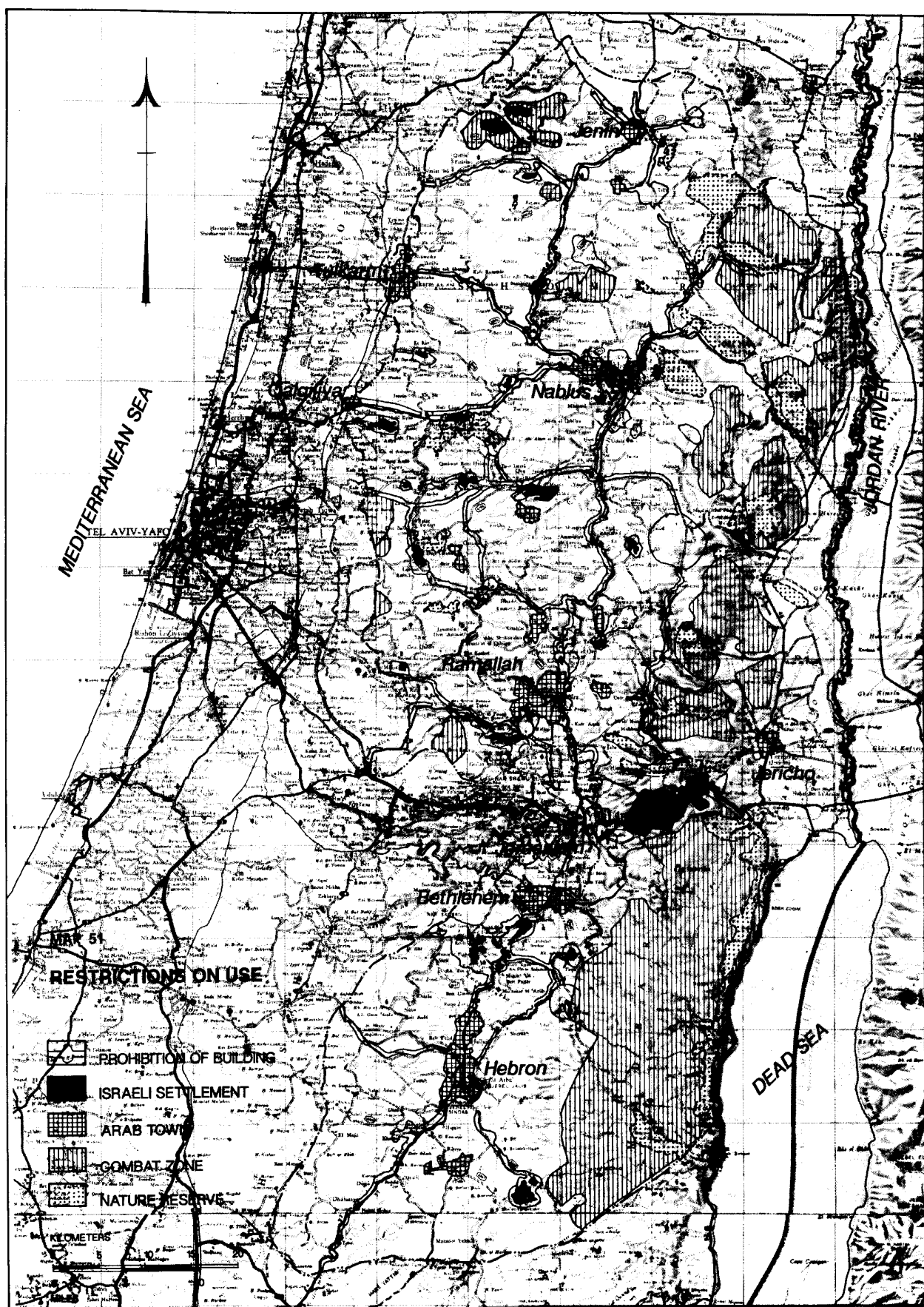
"Concerning the economy of the occupied Arab territories, the Israeli authorities seem to have followed two major rules, namely that the occupied lands should not become a burden on the Israeli taxpayer and that goods and services originating there should not compete with Israeli goods and services. Accordingly, they have facilitated the employment in Israel of ever larger numbers of workers from the occupied territories. They have further encouraged massive exports of Israeli produce to the territories while reverse trade from these territories has kept lagging far behind - the deficit being covered by wages earned in Israel.

"Israeli policies and practices over more than 20 years have in effect turned these territories into both a labour reserve and a prime export market. There are few signs of development 'from within'. The occupied Arab territories are a dependent economy, and labour and trade are the cornerstones of dependence."

46. One result of these policies is that development in the occupied territories has become greatly unbalanced and the inhabitants have been prevented from establishing viable, environmentally sound and sustainable economies, which are essential for reducing their present unhealthy dependence on Israel.

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Figure 1



(Source: West Bank and Gaza Atlas, M. Benvenisti, West Bank Data Project 1989)

47. The Israeli Government states, as reported in its communication to the Director-General of ILO (contained in annex 2 of his 1990 report), that in the ten-year period 1970-1980, barring the usual fluctuations in the world economy, the standard of living of the populations of the occupied territories rose rather than fell. The same point is made in the Israeli Ministry of Health publication Health in Judaea, Samaria and Gaza 1989-1990, issued in 1990, (21) which states that "economic conditions showed dramatic increases in gross national product per capita over the years from 1968 to 1987". Figures in the report show that in the period 1972-1987 the per capita GNP for Judaea and Samaria (the West Bank) rose steadily from \$410 to \$2,090 while that for Gaza rose from \$268 to \$1,486. It is noteworthy that, by comparison, a publication by the Arab Banking Corporation in 1983 - "The Arab Economies Structure and Outlook" - gives the corresponding per capita GNP figures for the two neighbouring Arab countries at that date as follows: Egypt \$681.2 and Jordan (including the West Bank) \$1,523, while GNPs for these two countries as well as Israel around the same time are given in the WHO Health Statistical Tables as: Egypt, \$650 in 1981, Jordan, \$1,997 in 1982 and Israel, \$5,148 in 1983.

48. Whatever interpretation is put on these claims and figures, it needs to be stressed that GNP figures and other statistical economic indicators are by no means the sole or final measure of human well-being.

49. Employment opportunities and working conditions of the Palestinian and Arab populations also leave much to be desired. Apart from the physical dangers, harassment, strikes and curfews to which they are exposed in their daily lives within their own territories and as commuters to and from Israel, especially since the beginning of the intifadah in 1987. Most Palestinian workers, according to the report of the Director-General of ILO quoted above, are denied the benefits of social security or social insurance arrangements, because they are classified as daily-rated workers who do not qualify for these benefits (see also paras. 62-69).

50. Further evidence of the effects of the legal and economic dualism which operates between Israelis and Palestinians is provided in the 1989 report on human rights of the United States Department of State, which observes as follows:

"Under the dual system of governance applied to Palestinians - both Muslim and Christian - and Israelis, Palestinians are treated less favourably than Israeli settlers on a broad range of issues, including the right to due process, right of residency, freedom of movement, sale of crops and goods, land and water use, and access to health and social services ... Israel continues to place land under its control for military purposes, roads, settlements, and other purposes which restrict use by Palestinians and discriminate in favour of Israeli settlers against Palestinians".

51. Considering the importance of human settlements as habitats and generators of employment for their occupants, it is difficult to accept the situation which at present prevails in the occupied territories as environmentally sound as regards the aspects discussed above. There appears to be much that Israel, as the occupying power, could do to bring about improvements.

2. Refugee Camps

52. As a result of the Israeli occupation, a large number of Palestinians have been dislodged and, according to the UNRWA Statistical Yearbook 1988-1989, they made up a total of over 860,344 refugees in 1988, which is more than 50 per cent of the total Palestinian population in the occupied

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territories of the West Bank and the Gaza Strip. There are 20 refugee camps in the West Bank, with a population of some 389,110, and eight camps in the Gaza Strip with a population of some 462,234.

53. All the essential services in these camps, including education and health, are provided mainly by UNRWA which depends wholly on voluntary contributions. There is no evidence that the occupying power provides any assistance. The measures employed to suppress the intifadah have created a number of problems in areas such as education, where extensive school closures occurred in 1988-1989, employment and health, which have further stretched the limited resources of UNRWA.

54. As a result, the unsatisfactory conditions under which these refugees are obliged to live have shown little improvement. What is currently happening can be inferred quite clearly from the address presented by Dr. Robert Cook, the Director of Health of UNRWA to Committee B of the 43rd World Health Assembly in May 1990, in which he stated:

"In relation to public health, I wish only to focus on the chief challenge facing our Environmental Health programme at present which is undoubtedly sewage disposal in the occupied territories. In Jordan and Syria during the 1970's and 1980's the host governments and municipalities provided sewerage in most of the refugee camps. In the occupied territories, where the occupying power does not wish to spend any money on improving the camps' infrastructure, nothing has been done except with funds which UNRWA or UNDP could provide. The result is easily seen in table 10 of the Report, where it is shown that in Syria and Jordan 85 and 77 per cent respectively of refugee shelters are connected to main sewerage, whereas in the West Bank this figure is 22 per cent and in Gaza as low as 6 per cent! A herculean task faces UNRWA over the next half decade if this deplorable situation is to be remedied.

"In respect of medical care services, there are two aspects, care at health centres and hospitalization. We are far from satisfied with the services provided at our health centres, and we are undertaking a programme of rebuilding and of upgrading the quality and range of care".
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"The situation in Gaza (population 750,000) is on the other hand scarcely bearable. The re-building of Shifa Hospital by the Civil Administration goes along very slowly, and that of Khan Younis has not started. There is only one voluntary hospital, El-Ahli and that has only 85 beds. Despite contracting for 40 of these and reimbursing refugees 60 per cent of the high cost (\$170 a day) of using Shifa or Khan Younis, UNRWA simply cannot find hospital care adequate for its 450,000 refugees in Gaza. We have felt compelled to plan to build an UNRWA hospital of some 200 beds in Gaza as the only way we can see within the next three years to meet this very pressing need. We are soliciting extra-budgetary funds of \$35 million for construction, equipping and running costs for three years".

55. On the other hand, a team of physicians from Georgetown University, United States, who visited the UNRWA Health Centres and Refugee Camps in 1986 stated that, although "living conditions of refugees in the different centres vary widely, the general health of the population is good". (30)

56. In discussing the living conditions and material circumstances of the Palestinian and Arab inhabitants of the occupied territories and refugee camps in relation to those of the Israeli population, it is important to bear in mind the deep-seated socio-economic differences between the two groups of people. There is no doubt that Israel is a developed country with all the

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material, scientific, technological and economic advantages that go with this status, while the occupied territories still form part of the developing world. Far from changing the position, the fact that the two groups are so closely juxtaposed and entangled in spatial, political and economic terms only serves to sharpen the material differences between them and make the resulting disparities even more invidious. This is all the more reason why these differences must be removed as a matter of urgency.

C. Ecology

57. Apart from the serious shortage of water from which the occupied territories suffer, their environments as a whole are extremely fragile. Plant cover and sound methods of agriculture and soil management are therefore of the utmost importance.

58. Among the adverse effects of the Israeli occupation are the general neglect of the land by the Palestinian population owing to the superior employment attractions to be found in Israel, the flooding of markets in the occupied territories with cheaper agricultural produce from Israel, and the general lack of security (see ILO Director-General's Report 1990).

59. The land has consequently suffered neglect and a number of essential services and activities related to agriculture, such as research, manpower training, extension work and the development of financial lending institutions, have therefore not received adequate attention. The ecological effect of all this has been negative. According to Jordanian sources, (13) systematic damage has been done to the environment through tree-felling and the destruction of valuable olive groves by the Israeli occupying forces under the "pretext" of security.

60. Notwithstanding the above, such extensive destruction of valuable crops and natural resources would be ecologically undesirable and inconsistent with the preservation of a healthy environment.

61. Although industrial activity has grown since 1967, it is still a relatively undeveloped sector, and its impacts on the environment are therefore minimal. With a few exceptions, polluting emissions and effluents, noise and related adverse impacts are virtually non-existent. However, the proximity of the territories to Israel could expose them to environmental hazards originating from industrial activity inside Israel, if adequate environmental protection measures are not provided.

D. Sanitation and human health

62. Although the picture of the sanitation and health situation in the occupied territories presented by the Israeli authorities appears generally favourable, (21) the picture as presented by UNRWA in the Commissioner-General's Report for 1989-1990 (24) leaves much to be desired, as noted above. It is to be noted that, whereas the health services in the refugee camps are primarily handled by UNRWA, in the remainder of the occupied territories these services are the responsibility of the occupying power.

1. The situation in non-refugee areas

63. According to a report produced by the Ministry of Defence of Israel, (17) progress has been made with the resuscitation of the health services since the near-total collapse which followed the 1967 war, and there have been improvements in both equipment and personnel. However, it is noteworthy that, while the Israeli report indicated that in the pre-1967 period the number of hospital beds per 1,000 inhabitants in the West Bank was 1.7, a special committee of experts commissioned by the World Health Assembly, in a report presented on 3 May 1990, puts the number of beds per 1,000 inhabitants in the

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West Bank today at 1.15, thereby indicating a decline, as compared with the pre-1967 situation (published information by Israeli medical authorities indicates that the decline in hospital beds is offset by the increase in primary health care facilities and other measures (21).

64. Other relevant indicators of the health situation given by the same report commissioned by the World Health Assembly are:

"Overall mortality in the West Bank, according to Israeli sources, is between 6 and 8 per thousand, while infant mortality is put at between 28 and 30 per thousand. In contrast, Palestinian sources put the infant mortality between 40 and 55 per thousand".

65. By way of comparison, it is to be noted that WHO (26) also gives infant mortality rates for Egypt, Israel and Jordan as follows:

| | | |
|--------|------|--|
| Egypt | 44 | per 1,000 for 1983 |
| Jordan | 60 | per 1,000 for 1983 |
| Israel | 11.5 | per 1,000 for 1986 (13.9 per 1,000 for 1982) |

66. The WHO report also makes reference to a number of chronic diseases, such as anaemia, among pregnant women and children, and to the increase in mental diseases caused by the increase in violence in the region. It also refers to the high incidence of injuries caused by rubber or plastic bullets, firearms, beatings and gas, all of which have served to undermine human health and well-being in the region.

2. The situation in the refugee camps

67. The health problems in the refugee camps are principally the inadequacy of hospital facilities, unsatisfactory water supply and insanitary waste-water disposal systems. Under the existing arrangements, these problems are mainly the responsibility of UNRWA and various non-governmental organizations.

68. According to the Annual Report of the Director of Health of UNRWA for 1989, (24) hospital facilities are especially poor in Gaza, where there is only one private 70-bed hospital at which UNRWA subsidizes 40 beds. But both in Gaza and elsewhere, hospital charges are so high that they are beyond the means of the majority of the refugee population, and UNRWA is obliged to assume the main responsibility for the provision of health care in the camps. Even so, as the report indicates, the services it provides are subjected to continual disruption by the Israeli Defence Force which, in its pursuit of suspects, shows scant regard for the lives and welfare of hospital staff and patients.

3. Environmental health conditions

69. On the question of environmental health conditions, the Annual Report of the Director of Health of UNRWA for 1989 states as follows:

- "(i) The provision of water-borne sewage disposal (i.e. water-closets, W.C's in the refugees' homes) is by far less adequate in the Gaza and West Bank Fields than in the other three Fields of Jordan, Lebanon and Syria. In fact the vast majority of homes have only pit latrines i.e. percolation pits where the liquids filter away and the solids from time to time must be evacuated.
- "(ii) Waste-water from domestic use in most of refugee camps is disposed of through surface drains constructed by the refugees themselves through UNRWA self-help projects. This waste-water originating from domestic use may be contaminated with liquid

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from cess-pits, and the surface drains often flow onto the narrow roads and pathways inside camps and form large stagnant pools producing all kinds of health hazards and offensive smells. During rainy season, muddy water running down hills and effluents contaminated with human and animal excreta terminate in the surrounding agricultural lands and are often used for irrigation of vegetable crops. The need for construction of proper sewage disposal systems and treatment plants is one of the major priorities.

- "(iii) The problems of water supply, especially the increased salinity of both chloride and nitrate contents of deep wells in the middle camps and southern parts of the Gaza Strip, have become very serious and are adversely affecting the health status of the population and agricultural welfare as well.
- "(iv) These problems represent major challenges to UNRWA because improvement of camp infrastructure of environmental health facilities involves a major shift from low-cost, low-technology projects towards major development projects requiring substantial funding, technical expertise and full co-ordination/integration of camp water supply and sewerage disposal systems within the related schemes of local authorities/municipalities. This shift is happening now with donor assistance and in co-operation with UNDP and bilateral agencies. But the pace is very slow because funding is far below what is needed and problems of co-ordination/approval still represent major constraints."

E. Education and manpower development

70. The relevance of education to environmental issues lies in its role in shaping attitudes and imparting skills and knowledge which can promote better use of resources and sound management and preservation of the environment.

71. Throughout the occupied territories, as indicated in a 1990 Unesco study on the needs of the Palestinian people in the field of education, (11) primary and post-primary education is compulsory and generally based on Jordanian and Egyptian models. Beyond this level, opportunities are available in private institutions for pre-university vocational and non-formal education and middle-level manpower training in community colleges. Opportunities are also available at university level.

72. In terms of numbers, the Unesco study suggests that the available institutions and their rate of growth in relation to the population appear adequate. However, the Unesco study observes that one of the problems facing education in the occupied territories is the lack of relevance to the Palestinian cultural identity, while another problem, especially at the higher levels, is the excessive concentration on the humanities as compared with the scientific and technological fields, such as agriculture and medicine.

73. The study also observes that plant and equipment are generally below standard and that the quality of teachers is low on account of inadequate on-the-job training and the attractions of better training and employment opportunities outside.

74. In spite of these problems, UNRWA has been able to provide acceptable educational facilities at all pre-university levels, including the awarding of scholarships, as shown by the following enrolment figures for 1988-1989:

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| <u>Educational Level and Type of Authority</u> | <u>West Bank</u> | <u>Gaza</u> | <u>Total</u> |
|--|------------------|-------------|--------------|
| 1. <u>Elementary</u> | | | |
| UNRWA Schools | 27 921 | 65 478 | 93 399 |
| Government Schools | 12 281 | 6 874 | 19 155 |
| Private | - | - | |
| Total | 40 202 | 72 352 | 112 554 |
| 2. <u>Preparatory</u> | | | |
| UNRWA Schools | 11 354 | 25 744 | 37 098 |
| Government Schools | 5 328 | 2 412 | 7 740 |
| Private | - | - | |
| Total | 16 682 | 28 156 | 44 838 |
| 3. <u>Secondary</u> | | | |
| Government Schools | 6 507 | 15 597 | 22 104 |
| Private Schools | - | - | |
| Total | 6 507 | 15 597 | 22 104 |
| 4. <u>Vocational and Technical</u> | | | |
| UNRWA Institutes | 944 | 556 | 1 500 |
| Private Institutes | 25 | - | 25 |
| Total | 969 | 556 | 1 525 |
| 5. <u>Teacher Training</u> | | | |
| UNRWA Institutes | 706 | 268 | 974 |
| Total | 706 | 268 | 974 |

(Source: UNRWA Department of Education, Statistical Yearbook 1988-1989, No. 25).

75. UNRWA does not run university courses of its own, but it awards a considerable number of scholarships to deserving refugees in a wide range of arts, science, technical and professional subjects in various Middle East universities. The table below shows the number of students from the West Bank and Gaza awarded university scholarships to universities in neighbouring Arab countries in 1988-1989 in various subject areas.

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| <u>Subject of Study</u> | <u>Number of Scholarships</u> | | |
|-------------------------|-------------------------------|-------------|--------------|
| | <u>West Bank</u> | <u>Gaza</u> | <u>Total</u> |
| Arts | 15 | 2 | 17 |
| Commerce | - | - | - |
| Dentistry | - | - | - |
| Engineering | 24 | 34 | 58 |
| Medicine | - | 12 | 12 |
| Pharmacy | 6 | 2 | 8 |
| Science | 4 | 13 | 17 |
| Public Health | - | - | - |
| Business Administration | - | 1 | 1 |
| Nursing | 3 | - | 3 |
| Total | 52 | 64 | 116 |

(Source: UNRWA Department of Education Statistical Yearbook 1988-1989, No. 25).

76. It is stated by Unesco that since the beginning of the intifadah in 1987 education at all levels has suffered serious disruption as a result of school closures and the widespread detention of both teachers and students. University education has virtually come to a standstill. (See Unesco Director-General's reports 127 EX/8, 1987, and 132 EX/12, 1989, presented to the Executive Board).

77. The question of academic freedom, which is fundamental to sound education at the university level, remains a controversial issue in the occupied territories. A 1987 Report of the Director-General of Unesco refers to a claim by the Israeli Ministry of Defence that "intense efforts had been made to give teachers and students the maximum amount of independence in the pursuit of legitimate academic aims." Another claim is that there is no form of intervention except "only when security was jeopardized." The Director-General of Unesco, however, challenges these claims by stating: "The fact remains that there are very many points of friction and that recurrent serious and sometimes dramatic clashes have been recorded, which impede the smooth functioning of the universities and amply raise the question of the basic exercise of academic freedom."

78. In these circumstances, it is difficult for the educational system to discharge its expected role in the training of manpower for essential development and the proper management and protection of the environment.

F. Institutional arrangements and legislation

79. Institutional and legislative arrangements for the protection and enhancement of the environment in the occupied territories can be said to operate at two levels:

- The level of the central Government; and
- The level of the municipalities.

1. Central Government

80. The Ministry of Environment is the principal official organ in Israel responsible for environmental matters. Before 1980, Jordanian laws applied in the West Bank, and Egyptian laws in the Gaza Strip, but since then Israeli legislative and administrative enactments have been superimposed on them.

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81. However, the position is complicated by the fact that, over and above the laws enforced by the civil authority, there are military orders which supersede civil laws in the occupied territories. It should also be noted that in several respects Israeli jurisdiction and legislation apply to the settlers in the occupied territories, regardless of the fact that they reside outside the recognized boundaries of the State of Israel.

82. Thus, although the standards applied in Israel appear to be uniform with those in the occupied territories, in practice, as has already been noted in the section on sanitation and health (see paras. 62-69), the standards actually observed in the occupied territories show differences from those in Israel and between Israeli settlers and the Arab and Palestinian population. The responsibility for bridging the gap and correcting the anomalies involved lies with the two sides, although the Israeli Government must bear the greater share.

2. The Municipalities

83. At the level of the municipalities, one of the factors responsible for the present unsatisfactory standard of services would seem to be the imposition, since 1980, of direct Israeli control of the administration in place of the formerly elected Palestinian officials. Of particular note is the limitation on land allotment for building purposes which, coupled with the reported Israeli demolition of dwellings in the municipalities and elsewhere, has led to environmental deterioration in some localities.

G. Conclusions and recommendations

84. This report could have benefited considerably if official material for its preparation had been received from Israel, as requested by the Executive Director. Nevertheless, the picture which emerges from the information set out and the issues raised in the report as presented indicates that, despite its many positive features, the environment of the occupied territories calls for close and careful management if its balance is to be maintained and its quality enhanced. These concerns derive both from the inherent characteristics of the environment and from the socio-political conditions in which the occupied territories find themselves.

85. It is thus of the utmost importance that the key environmental problems of the territories should be identified and measures taken to address them.

86. On the basis of the findings of the present report and until the political issue of the occupied territories is resolved by the United Nations, which should hopefully take place soon, it is recommended that:

(a) Steps should be taken by UNEP, UNDP and other relevant organizations, including UNRWA, to provide assistance, within available resources, with the aim of preserving the resources, halting the deterioration of the environment and enhancing the general quality of life in the occupied territories;

(b) In view of the lack of agreement among the parties directly involved in the issues covered by the present report on a considerable amount of the relevant basic data, an international group of experts composed of representatives of Israel and the Palestinians and other Arabs in the occupied territories, as well as technical experts from the United Nations system and, if need be, other independent organizations, be entrusted with the preparation of an up-to-date database on the environment in the occupied territories; and

(c) An in-depth and comprehensive study should be conducted of the totality of the environmental problems of the occupied territories and their present and potential resource base as a human habitat.

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TABLE 13.5
WATER ALLOCATION TO SETTLEMENTS IN THE WEST BANK AND GAZA AREA
(000 cu.m.)

| Region/Name | Annual Quantity | Sources of Supply | | From Mekhorot | Use by Consumer | | |
|-----------------------|--------------------|-------------------|-----------------|------------------|-----------------|----------|-----------------|
| | | Wells | Above Ground | | Agric | Industry | Household |
| GUSH ETZION | | | | | | | |
| Kefar Etzion | 239.8 | 0 | 0 | 239.8 | 179.8 | 0 | 60 ¹ |
| Rosh Tzurim | 190.5 | 0 | 0 | 190 | 177.5 | 0 | 13 ² |
| Migdal Oz | 108.4 | 0 | 0 | 108.4 | 103.4 | 0 | 5 |
| Tekoah | 47.5 | 0 | 0 | 47.5 | 42.5 | 0 | 5 |
| Eliazar | 66.5 | 0 | 0 | 66.5 | 61.5 | 0 | 5 |
| Ma'ale Amos | 36.0 | 0 | 0 | 36.0 | 0 | 0 | 36.0 |
| Alon Shevut | 100.8 | 0 | 0 | 100.8 | 13.5 | 0 | 87.3 |
| Har Gilo | 54.0 | 0 | 0 | 54.0 | 0 | 0 | 54.0 |
| Nevei Daniel | 9 | 0 | 0 | 9 | 0 | 0 | 9 |
| Total | 852.5 | 0 | 0 | 852.5 | 578.2 | 0 | 274.3 |
| HAR HEBRON | | | | | | | |
| Carmel | 799.9 | 0 | 0 | 799.9 | 794.9 | 0 | 5 |
| Atniel | 9 | 0 | 0 | 9 | 0 | 0 | 9 |
| Telem | 190 | 0 | 0 | 190 | 165 | 0 | 25 |
| Maon | 290 | 0 | 0 | 290 | 285 | 0 | 5 |
| Susia | 24.3 | 0 | 0 | 24.3 | 0 | 0 | 24.3 |
| Total | 1,313.2 | 0 | 0 | 1,313.2 | 1,244.9 | 0 | 68.3 |
| JORDAN VALLEY | | | | | | | |
| Farah Exp. Station | 77 | 0 | 0 | 77 | 77 | 0 | 0 |
| Kfar Mchola | 2,750 | 0 | 1,100 | 1,650 | 2,741.5 | 0 | 8.5 |
| Rui | 620 | 0 | 0 | 620 | 615 | 0 | 5 |
| Bekaot | 1,180 | 0 | 0 | 1,180 | 1,159 | 0 | 21 |
| Hamra | 1,430 | 0 | 0 | 1,430 | 1,410 | 0 | 19.5 |
| Mekhora | 960 | 0 | 0 | 960 | 944 | 0 | 16 |
| Gitit | 715 | 0 | 0 | 715 | 708.5 | 0 | 6.5 |
| Argamon | 1,350 | 0 | 0 | 1,350 | 1,340 | 0 | 10 |
| Masua | 1,550 | 0 | 0 | 1,550 | 1,539 | 0 | 11 |
| Phezael | 1,700 | 0 | 0 | 1,700 | 1,684 | 0 | 16 |
| Yafet | 660 | 0 | 0 | 660 | 645 | 0 | 15 |
| Tomar | 1,400 | 0 | 1,400 | 0 | 1,395 | 0 | 5 |
| Netiv Hagdud | 1,400 | 0 | 0 | 1,400 | 1,387 | 0 | 13 |
| Na'ama | 480 | 0 | 0 | 480 | 475 | 0 | 5 |
| Gilgal | 1,870 | 0 | 0 | 1,870 | 1,853 | 0 | 17 |
| Naaran | 1,240 | 0 | 0 | 1,240 | 1,229.5 | 0 | 10.5 |
| Yitav | 1,185 | 0 | 0 | 1,185 | 1,178.5 | 0 | 6.5 |
| Sdemot Mchola | 2,190 | 0 | 500 | 1,690 | 2,175 | 0 | 14.5 |
| Jordan Vly Exp. Stat. | 50.0 | 0 | 0 | 50.0 | 50.0 | 0 | 0 |
| Jordan Vly Dev. Camp | 1.0 | 0 | 0 | 1.0 | 1.0 | 0 | 0 |
| Jordan Vly Council | 13.0 | 0 | 0 | 13.0 | 0 | 0 | 13.0 |
| Ma'ale Ephraim Sch | 27.0 | 0 | 0 | 27.0 | 0 | 0 | 27.0 |
| Total | 22,848.0 | 0 | 3,000 | 19,848 | 22,607 | 0 | 240 |

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NORTHERN DEAD SEA

| | | | | | | | |
|---------------|--------------|----------|--------------|--------------|--------------|----------|----------------|
| Mitzpe Shalem | 2,630 | 0 | 1,500 | 1,130 | 2,625 | 0 | 5 ³ |
| Kalia | 3,005 | 0 | 1,500 | 1,505 | 2,991 | 0 | 14 |
| Almog | 2,250 | 0 | 1,500 | 750 | 2,239 | 0 | 10.1 |
| Vered Jericho | 650 | 0 | 0 | 650 | 645 | 0 | 5 |
| Total | 8,535 | 0 | 4,500 | 4,035 | 8,500 | 0 | 34.1 |

MATE BINYAMIN & SAMARIA

| | | | | | | | |
|--------------------|----------------|----------|----------|----------------|----------------|-------------|-------------------|
| Mevo Horon | 898.8 | 0 | 0 | 898.8 | 862.8 | 0 | 36.0 ⁴ |
| Matityahu | 305.8 | 0 | 0 | 305.8 | 295.8 | 0 | 10.0 ⁵ |
| Shila | 153 | 0 | 0 | 153 | 63 | 0 | 90 |
| Ophra | 234 | 0 | 0 | 234 | 126 | 0 | 108 |
| Kochav Hashahar | 75 | 0 | 0 | 75 | 65 | 0 | 10 |
| Kefar Adumin | 135.0 | 0 | 0 | 0 | 0 | 0 | 135 ⁶ |
| Nili | 27 | 0 | 0 | 27 | 0 | 0 | 27 |
| Bet Arye | 50 | 0 | 0 | 50 | 0 | 5.0 | 45.0 |
| Bet Horon | 45 | 0 | 0 | 45 | 0 | 0 | 45.0 |
| Hadasha | 18 | 0 | 0 | 18 | 0 | 0 | 18 |
| Givon | 27 | 0 | 0 | 27 | 0 | 0 | 27 |
| Psagot | 13.5 | 0 | 0 | 13.5 | 0 | 0 | 13.5 |
| Bet El | 90 | 0 | 0 | 90 | 0 | 0 | 90 |
| Rimonim | 36 | 0 | 0 | 36 | 0 | 0 | 36 |
| Ma'ale Machmesh | 30 | 0 | 0 | 30 | 0 | 0 | 30 |
| Mitzpe Jericho | 0 | 0 | 0 | 0 | 0 | 0 | 0 ⁷ |
| Givat Ze'ev | 135 | 0 | 0 | 135 | 0 | 0 | 135 |
| Mevo Shila (Eli) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bet El 'B' | 88.6 | 0 | 0 | 88.6 | 88.6 | 0 | 0 |
| Dolev | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bet Yatir | 826.2 | 0 | 0 | 826.2 | 821.2 | 0 | 5 |
| Bet Aba (Barkan) | 36 | 0 | 0 | 36 | 0 | 0 | 36 |
| Kadumim | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kiryat Netafim | 4.5 | 0 | 0 | 4.5 | 0 | 0 | 4.5 |
| Ma'ale Shomron | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anav | | | | | | | |
| (Shavei Shomron B) | 13.5 | 0 | 0 | 13.5 | 0 | 0 | 13.5 |
| Yakir | 69.8 | 0 | 0 | 69.8 | 0 | 5 | 64.8 |
| Kfar Tapuach | 18 | 0 | 0 | 18 | 0 | 0 | 18 |
| Har Bracha | 10.8 | 0 | 0 | 10.8 | 0 | 0 | 10.8 |
| Shevei Shomron | 117 | 0 | 0 | 117 | 13.5 | 0 | 103.5 |
| Kalmish (Neve Sof) | 67.5 | 0 | 0 | 67.5 | 9 | 0 | 58.5 |
| Egoz (Tel Haim) | 13.5 | 0 | 0 | 13.5 | 0 | 0 | 13.5 |
| Feduel | 11.7 | 0 | 0 | 11.7 | 11.7 | 0 | 0 |
| Yoazair | 22.5 | 0 | 0 | 22.5 | 22.5 | 0 | 0 |
| Mevo Dotan | 27 | 0 | 0 | 27 | 0 | 0 | 27 |
| Reihan | 368 | 0 | 0 | 368 | 342.3 | 0 | 25.7 |
| Harish | 190 | 0 | 0 | 190 | 180 | 0 | 10 |
| Qadia | 22.5 | 0 | 0 | 22.5 | 0 | 0 | 22.5 |
| Ganim | 22.5 | 0 | 0 | 22.5 | 0 | 0 | 22.5 |
| Khomesh | 36 | 0 | 0 | 36 | 4.5 | 0 | 31.5 |
| Atarat | 13.5 | 0 | 0 | 13.5 | 0 | 0 | 13.5 |
| Total | 4,252.2 | 0 | 0 | 4,117.2 | 2,905.9 | 10.0 | 1,336.3 |

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| | | | | | | | |
|-----------------|----------------|---|---|-------|----------------|---|-------------------|
| GAZA | | | | | | | |
| Gadid | 276.2 | 0 | 0 | 276.2 | 256.2 | 0 | 20 ⁸ |
| Gan Or | 225.9 | 0 | 0 | 225.9 | 221.4 | 0 | 4.5 ⁹ |
| Ganei Tal | 273.8 | 0 | 0 | 273.8 | 268.8 | 0 | 5 ¹⁰ |
| Netzar Hazeni | 295.7 | 0 | 0 | 295.7 | 289.2 | 0 | 6.5 ¹¹ |
| Rafiah Yam | 18 | 0 | 0 | 18 | 0 | 0 | 18 |
| Netzarim | 179.9 | 0 | 0 | 179.9 | 174.9 | 0 | 5.0 |
| Atzmonah | 603.0 | 0 | 0 | 603.0 | 592.2 | 0 | 10.8 |
| Qatif | 337.8 | 0 | 0 | 337.8 | 332.8 | 0 | 5.0 |
| Badoloah | 125.2 | 0 | 0 | 125.2 | 119.7 | 0 | 5.5 |
| Tel Montar | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevei Dekalim | 144.0 | 0 | 0 | 144.0 | 0 | 0 | 144.0 |
| Morag | 225.0 | 0 | 0 | 225.0 | 220.5 | 0 | 4.5 |
| Kfar Darom | 285.0 | 0 | 0 | 285.0 | 273.3 | 0 | 11.7 |
| Mitzpe Atzmonah | 367.7 | 0 | 0 | 362.7 | 362.7 | 0 | 5.0 |
| Eli Sinai | 13.5 | 0 | 0 | 13.5 | 0 | 0 | 12.5 |
| Total | 3,370.7 | | | | 3,111.7 | | |

Source: Water Allocation for 1986/87; Water Authority - Tel Aviv.

- ¹ - Additional 567.7 (000) cu.m. from other boreholes
- ² - Additional 569.5 (000) cu.m. supplied from other boreholes
- ³ - Includes 1,500 (000) cu.m. sewage water
- ⁴ - Additional 304 (000) cu.m. Latrun settlements
- ⁵ - Additional 76 (000) cu.m. Latrun settlements
- ⁶ - From Mishor Adumim
- ⁷ - Additional 15.0 (000) cu.m. from Adumim Plain consumers
- ⁸ - Additional 556.6 (000) cu.m. from Gaza Coast
- ⁹ - Additional 527.9 (000) cu.m. from Gaza Coast
- ¹⁰ - Additional 557.1 (000) cu.m. from Gaza Coast
- ¹¹ - Additional 557.4 (000) cu.m. from Gaza Coast

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Annex II

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Annex III

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