



UNEP

UNITED NATIONS
ENVIRONMENT PROGRAMME

STATE OF THE ENVIRONMENT
REPORT - 1980

YEMEN ARAB REPUBLIC



OFFICE FOR
ASIA
BANON
3/5240

YEMEN ARAB REPUBLIC



STATE OF THE ENVIRONMENT REPORT - 1980

YEMEN ARAB REPUBLIC

UNEP REGIONAL OFFICE FOR WESTERN ASIA

BEIRUT, LEBANON

COUNTRY : YEMEN ARAB REPUBLIC

CONTENTS

	<u>Page</u>
1. GENERAL INFORMATION.....	1 - 6
2. ENVIRONMENTAL POLICIES.....	7 - 10
3. IMPLEMENTATION STATUS	11 - 12
4. ENVIRONMENTAL ACTIVITIES AND SITUATION.....	13 - 38
5. UN/BILATERAL PROJECTS.....	39 - 42
6. REGIONAL OFFICE SUPPORT TO GOVERNMENT AND TO UN AGENCIES.....	43
7. AGENCY PROGRAMMES OF ENVIRONMENTAL RELEVANCE.....	44
8. AVAILABLE BACKGROUND INFORMATION ON ENVIRONMENTAL SOURCES.....	45
9. REFERENCES	46

1	COUNTRY : YEMEN ARAB REPUBLIC
<u>GENERAL INFORMATION:</u> Area, Physical Features, Climate, Population (Urban, Rural), National Income (GNP), Major Income Basis, Capital, Universities And Research Centres (National, Regional And International).	<u>Area</u> : 195,000 km ² (1) <u>Physical Features:</u> Location : The Yemen Arab Republic lies between latitudes 12°40. 17°26 north and longitude 42°30, 46°31 east, and located on the south west edge of the Arabian Peninsula. The country is bordered by Saudi Arabia in hthe North, the People's Democratic Republic of Yemen in hthe South and South east and the Red Sea in the west. East of Yemen is the great Arabian desert the Yemen quarter of Rub al-Khali. The border here is not clearly defined. The mountains of Yemen have been formed as a result of block faulting along a north south axis parallel to the Red Sea and along east-west axis parallel to the Gulf of Aden. The resultant uplift has formed the central mountain range starting from around Taiz. This central ridge drainage to the Red Sea is carried by seven major sadis, Namely Wadi Mawr, Sordud, Siham, Rimah Zabyd, Risyan and Mawza. These and several other minor wadis run down steep mountain solpes forming deep gorges which eventually open to the coastal plain known as the Tihama. The east flowing drainage to the Empty Quarter passes over more gentle slopes. The main Wadis in the area are Wadi Al-Jouf, Abidah and Harib.

1

COUNTRY : YEMEN ARAB REPUBLIC

GENERAL INFORMATION

Drainage south and east of Damar and Ibb - Taiz line flow to the Gulf of Aden, here again gradients are very steep, wadis deep and narrow. The main wadis of this region are Wadi Bana and Tuban.

On the basis of this particular topographic structures the country could be conveniently divided into four natural regions, each having its distinct climatic and vegetational characteristics. These are the coastal lowlands of Tihama along the Red Sea in the east, the foothills and middle heights of the central mountains range, the central mountains range and the eastern semi desert plateau.

a) The coastal Lowlands of Tihama

This region covers an area 30-60 km. wide stretching along the Red Sea from Bab-el Mandeb in the south, far into Saudi Arabia in the north. The elevation ranges from sea level to about 200m. at foothills. It is plain or slightly undulating, and intersected by dispersed, wide shallow wadis draining from the central mountain range into the Red Sea.

b) The Foothills and Middle Heights

The foothill and middle heights of the central mountain region are situated between the Tihama and central highlands within the elevation range of 200 m. to 1500 m. above sea level. The landscape is very rugged, cut by deep wadis running

1

COUNTRY : YEMEN ARAB REPUBLIC

GENERAL INFORMATION

through narrow gorges which have very steep and long slopes. Most of these Wadis drain to the west of Tihama, while the Wadis to the south and east of Taiz drain to the south into the Gulf of Aden.

c) The Central Highlands

This region comprises the higher reaches of the central mountain range exceeding 1500 m. elevation above sea level which extends from Ibb in the south into Saudi Arabia in the north. A chain of highest land is found between Ibb and Sana's where mountain peaks frequently exceed 3000 m., including Yemen's highest mountain, Nabi Shu'ayb (3760 m). The topography to the west is again very rugged, the eastern slopes are gentle and terminate at the high table lands of sane'a, Mabar, Damar and Yerim. These high plateaus are all above 2000 m. elevation.

d) The Eastern Semi Desert Plateau

Gently slopes eastwards and forms rolling country dropping to an elevation of 1000 m. where finally borders the Empty Quarter - Rub el-Khali. (2)

Climate

Yemen is located in the northern stretches of the tropical climate zone with two rainfall maxima, following overhead sun one in April - may the other in July - September and a long dry, almost rainless period, of four to five months

1

COUNTRY : YEMEN ARAB REPUBLIC

GENERAL INFORMATION

during the late autumn and winter. Rain bearing winds blow from southwest and southeast. Amount of annual rainfall depends mainly on altitude varying from desert condition on the coastal plain up to 1000 m. at 1500 m. and higher elevations on western and southern facing mountains of the Ibb District. The rainfall steadily decreases from the south to north. This decrease is very sharp and rapid from the central mountains range to the east. Considerable variations also occur in short distances in the same regions as one moves from exposed mountain to the sheltered wadis. Rains are always nearly in heavy showers, frequently with hail.

The Coastal Lowlands of Tihama generally receive less than 400 mm. rain. The mean monthly temperature does not vary considerably. The relative humidity is high and dew formation along the coastal strip is common. Winds generally blow from south-west and north-west with high velocities and causes sand movement in the coastal belt or soil erosion in the cultivated fields of inner lands.

The rainfall in the foothills is over 400 mm. and concentrated around August and September. It increases by altitude in the middle heights reaching over 600 mm. in Taiz with two peaks in April, May and July, August, September. The temperature is moderate all the year round the middle heights. The absolute minimum temperature recorded in Taiz is 10.2°C. The relative humidity is lower in winter and higher in the rainy months of spring and summer, daily fluctuations are considerable, middays being drier. Main wind directions are east in winter and spring and west in summer and autumn.

1

COUNTRY : YEMEN ARAB REPUBLIC

GENERAL INFORMATION

In the central highlands annual rainfall is said to be over 1000 mm. on the exposed slopes of the most southern end (Ibb district). It decreases at first rapidly then gradually to the north. The mean annual rainfall is about 800 mm. in Sana'a and 200 mm. near Saudi Arabian border in the north. The sheltered high plateaus of Yarim and Damar are semiarid, distribution of rainfall is unreliable in the north and annual variation is considerable. Full meteorological records of this region are available only for Sana'a Airport. They indicate that temperature around freezing point are frequent during winter. The relative humidity is low.

No meteorological data is available for the eastern Semi-Desert Plateau. It is generally known as a low rainfall region reaching desert conditions in the east where it joins the Great Arabian Desert. (2)

Climate of Sana'a : one of the main climatic features of Sana'a is the large temperature variations between day and night in winter, and summer. In summer the night temperatures are usually around 12°C with a day time maximum of 28°C. In winter daytime temperature is around 22°C with an average night minimum of 2°C, but which can reach 4°C below zero. (5)

During 1970-1973 the average annual rainfall at Sana'a have amounted in the range of 11.4 mm. to 163.1 mm. During the same period Ibb has received more than 1,100 mm of rainfall per year (2).

1

COUNTRY : YEMEN ARAB REPUBLIC

GENERAL INFORMATION

Population :

- Total population (recorded within the country). 4,526,000*
- Urban Population 17,3%
- Population of the capital agglomeration 8,9%
- Population under 15 years 46,8%
- Population 65 years and over 3.6%
- Rate of growth 1.8%
- Life expectancy at birth 38.3 years
- Illiteracy rate of the population aged 15 years and over

Male -	75.5%
Female-	98.4%
- Economically active population 1,136,000
- Economically active population in % of total population 25.1% (1)

GNP Per capita income : \$ 180 (1)

Major Income Basis : Agriculture 70% (4)

Capital ; Sana'a, Major Cities ; Hodeida and Taiz.

Universities and Research Centres:

University of Sana'a. Established in 1970.

* 712,000 people were not covered by the census, and the Yemenis abroad at census time is estimated at 1,234,000. The population therefore amounts to 6,471,893. (1) A new census is planned for the first quarter of 1981.

2

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL POLICIES

a) Problems: air, fresh water, seas, soil, fauna, flora, forests vegetation, range lands, desertification etc.

a) Problems

The problems of environmental concern that Y.A.R. is facing are due to the physical and social structure of the country, which lacks infrastructure and management, such as transport, water supply system and waste management system, electricity network, training centers and hospitals. No enough information has been gathered on the problems that Y.A.R.'s natural resources are undergoing.

Soil

In general the soil is good and fertile but it is subject to rain and wind erosion. (4)

Land

The scarcity of agricultural land is a serious constraint for Yemen's development. (3). Except for the development of Tihama and Wadi Al-Jawf which offer great potential.

Water

The erratic rainfall coupled with absence of basic knowledge of water resources is a major problem.

Fauna and Flora

A systematic study is badly needed for all the country.

Forests

The forestry and wooden trees area is estimated at a little more than 1.5 million hectares (7.5%) taking into account that the arbitrary cutting has transformed it and is still transforming it to a semi-desolate area. (4).

2	COUNTRY : YEMEN ARAB REPUBLIC
<u>ENVIRONMENTAL POLICIES</u> a) <u>Problems</u> b) <u>Policy status</u> i) an overall policy for environment ii) in relation to development & planning	<u>Urban Growth and Environmental Problems</u> Several years of civil war and prolonged draught in certain regions of Yemen forced the working class, mainly the farm workers, to desert their villages and flee to the major cities in search of livelihood. These migrants went to major cities, Sana'a, Taiz, Hodeidah and Ibb and settled in shanty towns and slums, which are creating multiple social, sanitation, hygienic and economic problems. The Government proposes to construct a total of 5,000 low cost houses for migrants and other slum dwellers in a period of 5 years. (7). b) <u>Policy Status</u> i) Government's programmes, as outlined in the first five year plan (1976/1977 - 1980/1981), in the field of environment protection and health are : <ul style="list-style-type: none">- Projects for garbage collection and waste disposal systems in Sana'a, Taiz and Hodeida ;- Projects to establish public gardens in the country;- Support to municipalities in the area of environment and health;- Projects for public toilets;- Education and training of nationals in the above fields. (6). ii) The Five Year Development Plan (1977-1981) has identified the structural and organizational weakness in the physical infrastructure sector as one of the problems facing the country.

2	COUNTRY : YEMEN ARAB REPUBLIC
ii) in relation to development and planning	<p>One of the Government's development strategies is therefore geared towards establishing and strengthening its physical infrastructure machinery to enable it to discharge its functions effectively.</p> <p>In pursuit of this strategy, the development objective is to improve the quality of life in both urban and rural areas and ensure planned and orderly growth of human settlements. (6).</p> <p>The Five-Year Development Plan allocates about 31% of investment to infrastructural projects, 22.2% to industrial projects, and only 14.3% for agricultural projects, while agriculture presents about 45% of the GDP and provides a living for about 80% of Population, as compared to industry which contributes less than 6% to GDP, and provides employment for no more than 4% of population. It also allocates 13.1% to housing. (7).</p>
iii) Concerning major resource areas	<p>iii) Yemeni Government is giving priority to the development of agriculture in the rural areas. (7). Its intention is to modernize the agriculture and to make better use of irrigation. (8).</p> <p>Ministry of Agriculture had adopted the <u>Integrated rural development</u> approach in order to increase the farmer's productivity and raise his standard of living (7).</p>
iv) On Area Development	<p>iv) The Government of Y.A.R. proclaimed the formal commitment of Governments to improve by concerted action, the quality of life in human settlements, especially of the most deprived masses of the population. (3).</p>

2

COUNTRY : YEMEN ARAB REPUBLIC

iv) On Area Development

There has been no official statement of Governments' housing policy. This does not mean that there is no policy, and there is evidence of Government's keen interest in the subject. (10). Presently there is a ministry of housing.

v) On Science Policy

v) Y.A.R. have no definite plans yet for the setting up of a national institution dealing with overall aspects of Science and Technology. (11).

3

COUNTRY : YEMEN ARAB REPUBLIC

IMPLEMENTATION STATUS

a) Legislation

a) Legislation

No overall environmental legislation exists in the country. However, there are various laws and regulations which are actually in force in respect to the following fields:

1- Health and Environment:

- Law No. 16 of 1965 is in connection with provision of quarantine.
- Law No. 13 of 1973, as amended by laws No.5 of 1977 and 17 of 1978 for establishing National Water and Sewerage Authority.
- Law No.108 of 1976 is in connection with the slaughter of animals. (28).

2- Agriculture:

- Law No.88 of 1976 is for the protection of animal wealth.
- Resolution No.38 of 1975 issued by the Prime Minister is in connection with the establishment of afforestation committees.

There are no legislations to control the agricultural resources (land, water, pesticides, etc,). (28).

3- Industry:

- Law No.18 of 1975 is in connection with the promotion and organization of investment in the country.
- Law No.20 of 1976 is in connection with the promotion and organization of industry.

4- Marine Environment:

- Law No13 of 1975 is in connection with sanitary provisions in harbours and air-ports.
- Law No.13 of 1976 for organizing some aspects of Maritime Law.

These laws forbid the discharge of oil, ballast, rubbish and other harmful substances in the marine environment. Further development in this respects are expected in connection with ALECSO. Red Sea Programme. (26),(28).

3

COUNTRY : YEMEN ARAB REPUBLIC

IMPLEMENTATION STATUS

a) Legislation

5- Management of Natural Resources:

- Article 1 of Law No.7 of 1978 is in connection with the establishment of an Oil and Mineral Resources Corporation. Yet no laws have been promulgated for licencing the exploration and exploitation of petroleum and mineral resources.

6- Fisheries:

- Law No. 20 of 1978 is in connection with Fisheries which lays provisions for the following:
 - * Conditions and Specifications necessary to obtain permits or licences for fishing.
 - * The prohibition of using explosive or harmful materials for the purpose of fishing.

7- Conservation of Wildlife:

- Law No.40 of 1977 stipulates in article 1 that "It is prohibited for a period of 10 years and in all parts of the country to hunt any kind of gazelle whatever the means of hunting should be." (28).

b) Administrative Structure

b) Administrative Structure

The Cabinet issued Resolution No.83 of 1977 establishing a Central Committee and Local Committees for the protection of environment and combating epidemic diseases. This Resolution contains only two articles, one for the constitution of these committees and the second for identifying the date of entry into force. The Central Committee is composed of the Minister of Health as Chairman and nine officials as members including the Assistant Secretary General of Co-operatives Union. Local Committees are composed in Municipalities of each Governor as Chairman and nine officials as members including the head of the local co-operative organization for development. The Central Planning Organization (CPO) is the main body which executed development projects. (28).

c) Enforcement of Laws

c) Enforcement of Laws

The violators of marine and fishing laws are punished with fines and imprisonment. Also, those who hunt gazelles are punished with imprisonment and fines. (26), (28).

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTI-
VITIES AND SITUATION

a) Human Settlements and
Environmental Health.

a) Human Settlements

Housing:

There is poverty and stagnation in the rural sector but relative prosperity and rapid recent growth in the urban centres where a construction boom is underway. An estimate of the rate of growth of the capital Sana'a is that its present population of about 135,000 will double in the next 12 years. Similar situations prevail in the two other major towns of Taiz (78,000) and Hodeida (80,000). (12). The co-operatives union (mainly locally finance activities) is shouldering an active role in rural development.

Urban growth is a very recent phenomenon in the Y.A.R. and started only with the revolution in 1962.

Although the population of Sana'a has grown three fold since 1962, the housing situation did not deteriorate because the less fortunate class of migrants had the skills to build for themselves many decent houses, thus practising spontaneously unaided self-help.

The energy of builders and architects is devoted now to improving the local building method and finding ways of utilizing and increasing the production of local building materials. It is hoped that if the present traditional trend continues a Yemeni family whatever its income will always have the security to be able to find a decent dwelling.

Although, Sana'a is still one of the few national capitals without slums, and squatter settlements or shanty town, the increase in pollution signals the danger that such undesirable development will undoubtedly take place unless immediate remedial measures are taken. (3)

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

Rural Life

About 90% of the population lives in the rural areas in a traditional bound society who depend on the produce of the land, their small herds of livestock and by the coast, the resources of the coastal waters.

Tribal ties still dominate the structure of rural society and to most peasants, the authority of the Sheikh, the traditional head of the tribe represents a strong authority (3).

The land shortage continues to cause large numbers of Yemenis to leave the country side but in recent years a greater proportion have found employment in Sana'a, Hodeida and Taiz, the three major cities. Migration data is not available but pressure of population on the land (350/km²) had led to a high rate of immigration to other Arab countries which is estimated well over a million people (3).

The total constructed area in 1974 had reached 474,944m² where 1,653 licences were granted. In 1970 the total constructed area was 302,624m². (2).

The total number of households in Y.A.R. in 1975 were 906,185, the total number of living quarters was 856,059, and the total number of establishments was 113,283. (13).

Building Materials

The traditional building materials in the Yemen are stone, half-baked bricks, and earth blocks. Earth blocks are the cheapest building materials and it has

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

an excellent insulating property (thermic inertia) which produce comfortable indoor temperature where the outside temperature fluctuates greatly between day and night in winter and summer. (5)

In 1977 imports of cement has ranged as high as 800,000 tons. The development plan calls for and additional 3 million tons for plan projects alone.

The only cement works produce about 55,000 tons a year, and the plan calls for two 500,000 t n-a-year works, one at Arman which is at the contract stage - and one at Me-frak, 64 km from Taiz.

A factory to make pre-fabricated houses in Taiz is being studied, the project, billed to cost less than \$1 million would turn out 1,600 doors, 3,600 windows and 20 houses a month. (14).

The material used in recent settlements (around the main cities) are locally produced at very little cost if any.

But the short coming of those settlements around the old city is the lack of city planning and government housing policy.

The Y.A.R. wishes to realise a self-help Housing Pilot Project of about 600 units for settlements of new mi-grants around Sana'a.

A W.F.P. proposed pilot project for building materials constitutes both:

- a way to reserve the trend and try to come back to local building techniques and materials.
- a new orientation and approach towards problem of urban growth in the Y.A.R. necessitating the introduction of new organizational structures, policies, planning and legislative measures. (15)

4

COUNTRY: YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

Rural Water Supply

Most of the rural areas are still suffering from scarcity of drinking water and the importance attached by the government to the provision of drinking water to a number of villages whose population was between 300 and 2000 persons. Part of the activities under these projects would involve conducting research on finding new sources of water and improving 150 existing projects as well as drilling 75 wells and storing water from rain especially in the villages located at the top of mountains. In addition, 125 new and integrated projects will be established. The beneficiaries of these projects would be estimated to amount to 6.8,000 people, during the Five Years of the Plan. (7).

There is neither adequate water supply system nor sewerage system in Sana'a. (5)

The Public Utilities Sector is distinguished by the following fundamental characteristics :

- Non-availability of clean water network in towns;
- Disarray and weakness of the trained administrative machinery and severe shortage in capabilities;
- Non-availability of adequate studies on rural water whether for drinking irrigation or any other uses, and the perpetual complaint from drought;
- Non existence of drinking water projects and even those available are limited to efforts and initiatives made by individuals and co-operatives;
- Lack of planning in certain towns and availability of plans in other, but with no obligation to have them implemented;
- Poor municipal services in towns and their rare existence in rural areas.

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

- Inadequate financial regulations, relating to collection of municipal dues like the one concerning the implementation of the regulation on the collection of dues. (4)

Waste Management

There is not enough information about the waste management practices in Y.A.R.

In rural areas, the traditional "zoolies" are still in use for excreta disposal in the two republics of Yemen. This primitive system depends on the direct discharge of excreta from the toilet on each floor of a multi-story building into sumps located on the back side of houses. The sumps, emptied only when the fecal matter overflows cause a number of public health problems. (16)

The Saudi Fund for Development (SFD) is contributing for the water and sewerage network of Sana'a and Taiz. (17).

Health

Endemic and epidemic diseases are prevalent and widely spread and specially tuberculosis in all its types; malaria, bilharzia, renal diseases and types of fevers and particularly among children which are normally accompanied by varying degrees of malnutrition and which is reflected in the high average of deaths specially among children.

Feeding standards are extremely low. The basic food of the population is wheat in all its different varieties and the average consumption per day per head of the population does not exceed 18 grams of meat, and 92 grams of vegetables and fruits.

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

Health consciousness is very poor, whether that be on hygiene, or environmental health. In the addition of the absence of awareness in general as to the importance of vaccinations and inoculations against diseases and epidemics, facilities and means of providing a healthy and clean environment are completely absent both in the individual and society level. The non-existence of potable water sources, sewerage systems, health services, street cleaning and control of restaurants and tea-shops is an indication of the lack of health awareness. It must be stressed that the habit of Qat chewing is one of the principle causes directly or indirectly, of the deterioration of the individuals or the society's health standards.

In spite of describing the health preventing and environmental standards as being low, the demand on curative medicines and its institutions is getting greater and is spreading even to the deepest spots in the rural areas irrespective of the comparative expansion of medical facilities during the last few years. Such services continue to fall short of meeting the ever increasing demands on it. (4).

4

COUNTRY : YEMEN ARAB REPUBLIC

ENVIRONMENTAL ACTIVITIES
AND SITUATION

a) Human Settlements

Energy in Human Settlements

Y.A.R. depends on imported petroleum to generate power in view of the unavailability of natural resources, such as coal and water.

The gradual increase in using electric power, especially when stability has prevailed and at the end of the civil war. Energy has arisen from 14,000 KW in 1969 to 20325 KW in 1971, an increase of 40%. In 1971 the number of power stations reached 27. (4).

Housing Needs

Sana'a, the Capital of the Y.A.R., has an annual average population growth estimated at 6%. The existing housing stock is on the whole satisfactory, but the city is in dire need of public facilities and utilities.

1,000 low-cost dwelling units each year should be constructed for the next 10 years. Existing schools can hardly accomodate 10% of the school age population, and most public buildings are too small and inadequate (5).

b) Dry farming agriculture, irrigated agriculture, forestry, range management, combating desertification.

b) Dry Farming Agriculture, irrigated agriculture, forestry range management, combating desertification.

Because of the short and powerful down pours and the mountains formation on the land surface in the areas of the heavy rains, the rains form torrential streams for limited hours and flow towards the west, south and east where it irrigates some plains situated at its ends, and out of the total lands invested annually, an area of 1,275,000 hectares depend directly on rains and 120,000 ha. on the water of the seasonal torrential streams, and an area of 73,000 ha. on the water of the permanent streams and finally an area of 32,000 on the ground water. (4).

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status:

i) Agriculture - soil, forests, range, water, crops, reserves, animal husbandary.

c) Resource Status

i) Agriculture:

Cultivable land

No proper assessment of cultivable lands have been carried out yet, but the percentage of the employed and cultivated land does not exceed 8% of the total area. The reason for not expanding more in this respect is perhaps due to total dependence on rain, primitive protection means and low technical standards of the farmers.

All sorts of protection operations of plants is carried out by human or animal efforts without employing the simplest agricultural machines. (4).

The total agricultural land used during 1974-1975 was 20,000 km². (2).

Some 2,000 km² of marginal lands are cultivated once every 4 to 5 years depending on the amount of rainfall.

Characteristics and resources of five main agricultural areas in YAR are

The country can be divided into five major agricultural areas, and which differ in latent and available resources, kinds of agricultural investments and development potentials;

1- Tihama

This is the coastal plain stretching across the country from the north to the south between the Red Sea Westward and the western sides of the mountains eastwards, with a latitudes between 30-70 km. The total area of Tihama is estimated at about 2 million hectares (20 thousand sq.km.), of which about 250 thousand hectares is cultivated annually and about 600 thousand hectares is cultivated on a

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

i) Agriculture

marginal scale once every three to five years on the average, according to the amount of the average annual rainfall which is between 50-300mm, increasing eastward. Dry hot climate prevails in the area and strong winds blow most of the days of the year and especially in the summer season. Agricultural production is concentrated in the 8 major wadis. The Tihama is divided into three strips ;

- Narrow sand strip adjacent to the coast, saturated with saltiness receives about 50mm rain annually.

- The middle strip receives between 100-200 mm rain water annually, with 8 main wadis passing through it.

- The strip parallel to the sides of the mountains receiving about 300 mm of rain annually.

2- The slopes (Western sides)

The area confined between Tihama on one side and southern highlands and the central mountains plains on the other side extends along the country from the north to the south with an estimated area of about 3.5 million hectares (35 thousand sq.km.). Most of the slopes which can be cultivated were transformed into terraces depending for its cultivation on rain average between 300-500 mm annually and producing durra, dukhn and coffee, fruits and vegetables.

3- The Southern highlands (the rainy parts)

This area consists of the lands between the southern section of the western sides and the southern boundaries and Al Beidha town in the eastern south, and Yarim plain (kaa al Haki) in the north, the total area amounts to about 2.5 million hectares (25 thousand sq.km.) and the cultivated area where about 500 thousand hectares,

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status:

i) Agriculture

most of it in the wadis and streams area, where about 8% of the cultivated area, i.e about 40 thousand hectares, is irrigated. It is the most productive agricultural region in Y.A.R. In general the wells in this area are very few and indications show that ground water is limited except the eastern part. The area is about 800 - 2,000 meters above sea level and in general its soil is notable for its fertility and a high average of rain between 600 mm around the town of Taiz and 800 mm or more around the town of Ibb.

4- Central Highlands

The central highlands extends from Yarim southwards to the northern boundaries of the country between the western slopes and the eastern elevation with a total area of about 3 million hectare (30 thousand sq.km.).

The area is situated about 2,000 - 3,000 meters above sea level, receiving between 200-400 mm of rain annually which is irregular and differs greatly annually and each season. Temperature decreases during the winter nights to the minimum average and sometimes up to below zero, but during the day the climate is warm all year round. The region produce wheat, barely and sorghum, vegetables, fruits and nuts. Some of the best varieties of grapes are produced in this region.

5- The eastern elevation

The information about the area extending between the chain of the central highlands and the desert in the east is very little. Its total area is estimated at about 80,000 sq.km. dry (100-200mm per annum) with high degree of temperature and non-fertile soil. (4).

It had the reputation of a rich agricultural region many years ago but it is now largely a desert. (3)
(Wadi Al-Jawf and Barat mountains slope into Al-Jawf).

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status:

i) Agriculture

Agricultural Population

Agricultural population in 1960 was 3,683,000 while in 1970 it was 4,568,000. The share of agricultural population to that of total population in 1960 was 83% while in 1970 it was 79%, indicating a drop of 4%. (18). The main cause of this situation is migration to oil-rich neighbouring countries.

Crops

The most significant crops of the agricultural production consist of cereals like maize, barley, wheat and durra which constitute the principal food crop and basically to satisfy the need of the producer himself, and utilises about 90% of the invested areas annually and nearly all the marginal areas. Beside the cereals the following cash crops are cultivated in different degrees: sesame, cotton, tobacco, qat, legumes, vegetables, potatoes, and fruits.

The use of chemical fertilizers and the better seeds and the use of insecticides has only started in some areas in the last three years. (4)

Water Resources

The amount of water which is available or may be used for irrigation, be it the ground or surface water, is far less than the required amount to irrigate the land areas capable of cultivation.

The problem is not only the amount of water, but also its organization, that means in the instances where ground and surface water is available for irrigation, the misuse of these waters through exhaustion or not giving the suitable amount to the plant of the correct time or not being able to control the water distribution in the irrigation nets with streams constitute also a water problem against agricultural development. (4).

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status:

i) Agriculture

Water demand projections for Yemen Arab Republic for the year 2000 is estimated as follows ;

- Agricultural water demand 115 US gallons/capita/day
- Industrial water demand 73 US gallons/capita/day
- Municipal water demand 34 US gallons/capita/day

Total 222 US Gallons per capita per day, or about 840 lit/capita/day. (27)

Soils

In general the soil is good and fertile and continuously exposed to be swept away either by the rain, the torrential streams or the strong winds blowing in most of the areas and constituting a major abstacle to agricultural production.

Since many centuries, the Yemeni farmer has developed many advanced means in the preservation of soil and water resisting the sweeping away including the steppes and directing the rainwater for its irrigation. (4).

Animal Husbandary

The number of livestock in 1974 was as follow ;

- Cattle 810,000
- Sheep and goats 9,500,000
- Camels 100,000
- Horses 4,000
- Donkeys 600,000

Source : (2)

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

i) Agriculture

The Government's intention is to modernise the agriculture and to make better use of irrigation.

New and varied types of vegetables are being introduced which are improving the standard of living through a healthier national diet. (8)

Agricultural Projects

1. Among the most important projects in the agricultural sector is the Tihama Development Project which endeavours at organizing the exploitation of water/land resources and the development of agricultural products in the Tihama region.

2. The second important project is the Southern Uplands Rural Development Project which is located in Taiz & Ibb provinces and comprises an estimated 50,000 ha. of cultivated land with 29,000 farms and 170,000 inhabitants, the majority of whom live in some 500 villages. (3)

3. The Abu Dhabi Fund for Arab Economic Development (ADFAED) in 1978 had signed a \$1.3 million loan agreement in Abu Dhabi. The loan is to help to finance agricultural feasibility studies for the Siham Valley. The studies were to be done over two years, at a cost of \$2.6 million. The Kuwait Fund for Arab Economic Development (KFAAED) is to provide the rest of the money. (8)

Post Harvest Food Losses

Post-Harvest food losses occurs at various stages including farm, storage, transport, retail market, central storage and distribution.

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

i) Agriculture

Causes of loss include : lack of cold storage, unsuitable containers, inadequate packing and storage, lack of grading and processing, storage, insects and rodents. (19)

Action Completed in Progress, or Planned to reduce Post Harvest Losses in YAR include:

- Tomato processing factory
- Central abattoir.

Expressed Needs or Suggestions to Reduce Post Harvest Losses include:

1) All Commodities

- Loss assessment programme.

2) Durables

- Threshing machinery
- Oilseed crushing machinery
- Storage Facilities

3) Fruit and Vegetables

- Training and extension programmes in grading, packing, transportation, storage, marketing and refrigeration techniques.
- Refrigerated or insulated transport.
- Packing sheds at farms.
- Processing facilities.
- Cold storage facilities.

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

i) Agriculture

4) Animal Products

- Project to investigate means to reduce losses in live-weight between farm and abattoir.

- Project to investigate utilization of blood, bones and offal. Improvement of packing, storage and transport facilities for eggs, meat, milk and poultry.

5) Fish and Crustacea

- Improvement of fish storage, transport and processing facilities. (19).

ii) Fisheries

ii) Fisheries

Main sources of fish catch are Arabian Sea and the Gulf of Aden and the Red Sea. In 1974 the catch from marine fisheries amounted to 7.5 thousand metric tons. YAR has no inland fisheries. (20).

The main objections of artizanal fishery development is to reach the active force of 4,500 fishermen living in the coastal area so as to upgrade the traditional fishery. (3)

iii) Industry, Mining and Shipping

iii) Industry

No concern for industry had been shown until the revolution had taken place and that was in a hesitant manner in view of the war. The total industrial institutions which were employing not more than 5 workmen in 1962 was about 95. They then gradually increased until they became 172 in 1967. After that they rapidly increased until they reached 262 in 1971. If the industrial institutions which employ less than five workmen are to be added to those, then the total number would be about 1616. The number of workers in such institutions amount to 5178. This figure is very low in comparison to the existing manpower.

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

iii) Industry, mining
and Shipping

The public sector plays an important role in as far as production and workmen are concerned. The textile industry for example, comes under the public sector and the size of its workers and production stands the first. It employs 38% of the total workers. The value of its products amounted to Rials 25,5 million in 1971, which is equivalent to 45% of the total industrial products. (4).

The main industries in Y.A.R. include :

- Salt and stone quarrying
 - Food industry
 - Beverages and cigarettes
 - Textiles
 - Building materials - Cement (55,000tons/year - only Hudaida plant).
 - Paints
 - Leather goods
 - Electricity generation (17,040 KWU "1974")
 - Aluminium (200 t/year. 1974)
- Source: (2)

The last 5 years Development Plan 1976/80 calls for two 509,000 ton/year Cement works, one at Amran which is at the contract stage, and one at Mafrak, 64 Km from Taiz. (14).

The Industrial Estate Development Authority has set up small local firms to manufacture sweaters, ready-made garments, aluminium doors and windows, and metal bed frames. It is also looking for joint ventures or turn-key projects in at least 40 different light industries next on the list are home decorating items, bathroom fixtures, school furniture, and cold storage. (14).

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

iii) Industry, Mining
and Shipping

Objectives of Industrial Development Programmes in three Year Development Plan 1973/1976 included :

1. Establishment of a consultative Unit to Develop industry.
2. Establishment of a factory to press cotton seeds, with a production capacity of 100,000 tons of cotton seed per year;
3. Meeting the demand for coloured textile, locally manufactured;
4. Meeting the demand of local market for locally made underwear and socks.
5. Increasing the output capacity of cotton weaving and textile to 350 tons of yarn and 2,750,000 yards of textile per year, but operating and expanding the Bagil Textile Factory.
6. To produce, and export one million tons of salt per year.
7. To establish a workshop for the maintenance of tractors and heavy vehicles.
8. To establish an industrial estate in Sana'a.
9. To expand the fuel storage tanks in Sana'a, Taiz and Hodeidah.
10. The filling of gas cylinders locally.
11. To develop and expand the aviation fuel services at Sana'a, Taiz and Hodeidah airports.
12. To develop and expand electric power.
13. To review the electricity position.
14. To establish an organization which would be fully responsible for controlling, and exploring all sources of natural wealth.

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :
iii) Industry, Mining
and Shipping

15. To give technical assistance to the minerals and petroleum authority.

16. To carry out some economic and technical studies for a number of industries. (4).

The International Finance Corporation (IFC), a World Bank affiliate has approved a \$3,15 million loans, its first to Yemen. The money will be used to help Yemen Dairy and Juice Industries to establish a \$9.5 million dairy and fruit juice project at Hodeidah Port.

The project is the first of its kind in N. Yemen. It will employ more than 150 workers, with additional indirect employment in transport and distribution. It will produce 6,300 gallons a shift of reconstituted milk, 530 gallons each of Yoghourt and ice cream, and 4,000 gallons of fruit juice. (21).

Mining

There is no complete data available which will assist in knowing the natural resources in the country. Although many researches had been made in this aspect they are all not completely available.

The mining sector suffers from the non-existence of a specialised body staffed to control all natural resources and explore them.

Only mineral salt is being exploited. Annual produce amounted to Riyals 3,547,000. Many researchers indicate the availability of other minerals of commercial qualities and quantities. But these so far have not been exploited (4).

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

iii) Industry, Mining
and Shipping

The raw materials of commercial value are :

1. Rock salt in Salif area with an exceptionally large scale.
2. Marble in Wadi Maksab and Al-Shaiban areas, also with an exceptionally large scale.
3. The gypsum anhydrite at 6 sites, again with exceptionally large scale deposits. (22).

Transportation and Shipping

Some small scale asphalted roads were constructed during the later part of the Imam's regime. Much efforts were made after the revolution to construct roads and branch roads, with help given from fraternal and friendly countries and international organizations a total of 2,079 km of road network has been constructed being as under:

- 596 km asphalt roads
- 491 km gravel roads
- 292 km rough tracks (4)

Most freight operations are done by shipping through the following three Red Sea ports of Yemen :

1. Port of Hodeidah

Established in January 1961 with aid from the Soviet Union. It has a wharf stretching for 400 meters, a loading and unloading machinery, a sweet water supply station, a workshop, good stores and fuel storage tanks. The port's approximate capacity is 400,000 tons per year. Its navigation passage is 9 km long and 24 feet deep.

4	COUNTRY : YEMEN ARAB REPUBLIC
c) Resource Status : iii) Industry, Mining and Shipping	<p>The port of Hodeidah is the country's main port at present. This port will be subject to much pressure during the coming few years due to its small wharfs and the increasing volume of trade imported through it. Goods coming through this port during 1973 were estimated as 571,000 tons.</p> <p>2. <u>Port of Mokha</u> (200 km south of Hodeidah) This port has a concrete wharf stretching for 200 meters. It was established in 1956. It is not suitable for vessels exceeding 1000 tons of loading capacity, anchoring 3 miles off the coast.</p> <p>3. <u>Port of Salif</u> (75 km north of Hodeidah) This port is being used mainly for the export of rock-salt which is much in abundance in that area, at a distance of only 500 meters from the sea shore.</p> <p><u>Air Transport</u> There is one airport which is capable of receiving large international planes, the Sana'a International Airport. The other two airports of Hodeidah and Taiz are suitable for medium type planes, including jet-lines. (4)</p>
iv) Labour Force	<p>iv) <u>Labour Force</u> Half of North Yemen's workforce is employed abroad and is repatriating pay from Saudi Arabia and other oil rich Gulf countries.</p> <p>The challenge for the Sana'a government is to get the new rich to inject some of its wealth into long-term investment and infrastructure rather than indulging in non-stop consumer trade spending. (14)</p>

4

COUNTRY : YEMEN ARAB REPUBLIC

c) Resource Status :

iv) Labour Force

The Distribution of Population according to economic activity in 1973 is as follows :

sector	Number ('000)	Percentage of total	Percentage of group
Economically Active			
a. Employed	1,740	28.06	16,67
Agriculture	1,560	25.16	86.67
Industry	10	0.16	0.55
Building & Constr.	25	0.40	1.39
Trade	45	0.72	0.50
Transport & Commun.	10	0.16	0.55
Government	50	0.81	2.79
Other Services	40	0.65	2.22
b. Unemployed	60	0.97	3.33
Total economic active	1,800	29.03	100.00
Inactive Population	4,000	70.97	100.00
Total Population	6,200	100.00	100.00

Source : (23)

The shortage of skilled and semi-skilled labor, limited administrative capacity of government agencies, inadequate port facilities, and the limited capacity of the construction industry are major constraints in fulfilling the objectives of the first five-year plan. (7).

4

COUNTRY : YEMEN ARAB REPUBLIC

d) Environment and Development

d) Environment and Development

i) Environmental Management

i) The people of YAR have gone the great pain to terrace cultivable mountains slopes (8).

The fruit development project aims at creating a nursery for fruit seedlings in Sana'a and another for tropical fruits in Taiz for the production of 310,000 seedling during the terms of the programme. Model gardens would be made in the various agricultural areas suitable for agriculture, on an area of 575 hectares in state and private lands. Sana'a nursery had been started at the beginning of 1973.

The Ministry of Agriculture had adopted the Integrated Rural Development approach in order to increase the farmer's productivity and raise his standard of living (7).

ii) Environmental Law

ii) Environmental Law :
Refer to section 3(a)

iii) ES & AT

iii) ES & AT:
There is a high potential for use of solar and wind energy in Y.A.R.

iv) Industry and Environment

iv) Industry and Environment:
No consideration is being given to this sector so far.

v) Oceans

v) Y.A.R. is cooperating with UNEP/ALECSO Project for the protection of the marine environment of the Red Sea and the Gulf of Aden.

vi) Energy

vi) The dependence on imported petroleum to generate power in view of the unavailability of natural resources, such as coal and water, costs the majority of the public beyond their means. (4)

4	COUNTRY : YEMEN ARAB REPUBLIC
d) Environment and Development	Power production in 1974 has reached 17,040 Kwh. (2)
vi) Energy	Since fossil fuels were not yet produced in this country. The idea to use the abundant potential of wind and solar energy should further be developed (7).
e) Socio-economic Problems	<p>e) <u>Socio-economic Problems</u></p> <p><u>Constraints To Development :</u></p> <p>The most serious constraints to Yemen's development are the country's scarcities of agricultural land and water, mineral resources, skills, modern institutions and basic information about the economic and social base.</p> <p>In light of the predominance of agriculture and the limited near term prospects for growth in other sectors, the improvement of living standards for the vast majority of Yemenis will depend mainly on improvement in agricultural productivity. The major constraints to develop these sectors are (1) erratic rainfall coupled with absence of basic knowledge of water resources, (2) deficiencies in basic institutions and skilled manpower (3) the low level of technology and the lack of social overhead infrastructure, (4) other complex socio-economic and political institutions inherent in centuries old, basically tribal society. (3)</p> <p>The land shortage of YAR continues to cause large numbers of Yemenis to leave the country side and move to urban centres for search of employment.</p>

4

COUNTRY : YEMEN ARAB REPUBLIC

f) Supporting Measures.

i) Earthwatch (INFOTERRA, GEMS, IRPTC).

ii) Environmental Education and Training, Public Information

i) Y.A.R. has not designed its National Focal Point for INFOTERRA. The National correspondent for IRPTC is not nominated yet.

ii) The Existing Educational System: Modern education in Yemen was not started until after the Revolution of the 26th September, 1962. Before that date education was confined in its scope and limited in its application and was characterised for its religious pattern in all its stages, and since the Revolution until now, enormous efforts had been and still are being made to develop this sector and many and great changes had in fact had taken place, except that despite all these efforts this sector is still suffering from backwardness, and the need for developing remains great.

In 1972/1973 the percentage of the literate in Yemen did not exceed 10% of the entire population, the percentage of those eligible for primary schooling was not more than 16% of those who were of primary school age and the percentage of those eligible for secondary schooling was not more than 1% of those who were of secondary school age. As for girls' education it remains confined and limited, and the percentage of those registered for primary schooling was 10% of the students of that stage and of those registered for secondary schooling was 6% of secondary schooling students. (4)

During 1973/74 the total number of schools reached 1,540 and that pupils 178,755 (20,770 were girls). (2)

In addition to modern education there are the traditional schools whose number has been minimised and its importance restricted as a result of the strong surge for modern education. Modern education in Yemen consists of the following :

4

COUNTRY: YEMEN ARAB REPUBLIC

- f) Supporting Measures.
ii) Environmental Education.

a) General education which includes primary and secondary education.

b) Vocational education which includes at present technical one and commercial (two) education, and teachers training institutes. The first two had a student body of 466 (in 1974).

c) Higher and University education at present includes colleges of Arts, Sciences, Education, Law, Shariah, Commerce and Economy (4).

High education in Yemen was started in 1970/71 when two faculties were established, these are;

1. Faculty of Arts, Science and Education :

It is intended that the faculty will prepare a number of intermediate and secondary school teachers which are badly needed in those schools. The number of students in this faculty were 270 (1973) female and male students, and was staffed by 20 University Professors.

2. Faculty of Shariah and Law :

The task for the graduates of this faculty is in the fields of the Judiciary, Administration and Legal. The number of students in this faculty in 1973 was 163 female and male students. The faculty was staffed by six full time university professors in addition to ten Yemeni Lecturers who were fully qualified and working in Government Department. (4).

4

COUNTRY : YEMEN ARAB REPUBLIC

f) Supporting Measures.

iii) Research Activities.

Research Activities

A. Fisheries Department:
Ministry of Agriculture

Main research activities are concentrated on fisheries, productivity, technology improvement (research vessel). (11)

B. Institutions having activities in combating desertification.

1) Agricultural Research Centre
Ministry of Agriculture

Published information are limited. Research efforts to develop available water resources. Variety trials on Field Crops and vegetables including salt resistant varieties. Basic fertilizer trials. Fruit production and marketing. (24).

2) Taiz agricultural reserach centres is conducting work on crops, soil-water-plant relationship, plant diseases, entomology, agricultural statistics and economics. (25)

5

COUNTRY : YEMEN ARAB REPUBLIC

5. UN/BILATERAL PROJECTS

(Global, Regional and country level) - UNEP Fund.

Foreign Aid

The Y.A.R. is classified by the UN as one of the 25 least developed countries (LDC). The country is, therefore, seeking and getting financial resources for development from both international organizations and bilateral sources including the UN System . (6)

The Y.A.R. relies heavily on foreign aid for its development programme. In the First 3-year Development Programme (1973-1976) of the total investment programme of \$ 205.64 million foreign assistance amounted to \$154.31 million. Similarly in the First Five-Year Development Plan (1977-81) Government envisages \$1.45 billion development programme.

Foreign assistance to the Y.A.R. comes in the forms of technical, capital, food and commodity assistance.

In so far as technical assistance is concerned, the UN System and particularly UNDP are the largest donors; their assistance is widely diversified and covers all sectors of the economy.

The principal source of capital assistances are from the oil rich Arab countries as well as other countries. (25)

Physical Planning Projects :

1) Project YEM/74/005 is the 2nd phase of the project YEM/69/013, "Building and physical planning".

Its long range objectives are : to upgrade the technical Division for Planning and Housing in the Ministry of

5

COUNTRY : YEMEN ARAB REPUBLIC

UN/BILATERAL PROJECTS

Municipalities and Housing to an efficient Department of Planning in the office of the Minister, with an increased number of qualified staff capable of preparing and implementing master plans for the major cities as well as physical development projects for the country as a whole.

There are three major aspects to this project :
a) Operational Activities; concerned with providing assistance pertaining to physical planning, (b) Training programme; concerned with the establishment of a sound course of training at the sub-professional level, (c) Liaison activities; concerned with co-ordinating physical planning efforts between the Ministry of Municipalities and Housing and the Central Planning Organization.

This project per se does not have direct investment potential but is instead addressed to providing institutional support to the Ministry of Municipalities and Housing and it is therefore of a pre-investment nature.

2) The UNDP Project : YEM/77/001/B/25/01

"Institutional Support in Physical Planning (Town and Regional)".

Proposed starting data : 1 January 1978

Duration : Two Years

The primary function of the project was institution building i.e. organization and strengthening of the physical planning department of the Ministry of Municipalities and Public Works. Then the preservation and protection of the natural environment was a major factor in the project.

5

COUNTRY : YEMEN ARAB REPUBLIC

UN/BILATERAL PROJECTS

Agricultural Projects :

1) The Central Agricultural Research Organization, Taiz YEM/73/010 - FAO/UNDP, duration (73-79).

The project is assisting the Government in setting up an agricultural research network starting from Taiz. At present the Taiz Research Centre is conducting work on crops, soil-water-plant relationships, plant diseases, entomology, agricultural statistics and economics. (25)

2) The International Finance Corporation (IRC), World Bank affiliate has approved a \$3.15 million loan. The money will be used to help Yemen Dairy and Juice Industries to establish a \$9.5 million dairy and fruit juice project at Hodeidah Port. (21).

3) The Fisheries Development YEM/74/003, FAO/UNDP, duration (1974-1977) : The Project aims at control and development of the fisheries resources of the country by giving direct technical and economic assistance to country and by organizing and strengthening the fisheries department and its regional office. (25)

Industrial Projects

The Industrial Promotion and Advisory Unit (YEM/72/012) UNIDO/UNDP duration 5 years (1974-1978)

The purpose of this project is to promote industrial development and policies and prepare plans for industrial growth, to indentify industrial projects for investments, to undertake or supervise industrial feasibility studies and to provide advisory sevicees to small and medium size industries. (25)

5

COUNTRY : YEMEN ARAB REPUBLIC

UN/BILATERAL PROJECTS

Environmental Health Projects :

- 1 - YEM/72/008 - Water Supply and Sewerage Systems, Sana'a and Hodeidah. WHO/UNDP. Duration 9 years (1973-1981).
- 2 - YEM/73/017 - Rural Water Supply. WHO/UNDP, Duration 4.5 years (1974 - 1977).

6

COUNTRY : YEMEN ARAB REPUBLIC

REGIONAL OFFICE SUPPORT
TO GOVERNMENTS AND TO
UN AGENCIES

Regional Office Supporting to Government and to UN
Agencies :

- The Environmental Legal Consultant of UNEP/ROWA (Dr. M.A. Khalil) from 0-17 October., 1980, visited the Y.A.R. and conducted a preliminary survey of existing environment related laws, and a draft of his report was despatched through UNDP Office in Sana'a.
- UNEP/ROWA's Regional Representative and Director (Mr. Abdul Aziz Al-Futaih) and a consultant on terrestrial ecosystems (Dr. Heiba) visited the country (Oct. 1980) and prepared a project proposal on combating desertification entitled as "Protection Against Erosion in the Downstream portion of Wadi Al-Jawf" (a pilot project). UNEP project No. DESCON - 3/11.

7

COUNTRY : YEMEN ARAB REPUBLIC

AGENCY PROGRAMMES OF ENVIRONMENTAL RELEVANCE

- The Sorghum and Millet Improvement Project of US AID : duration 1976-1981 .

This project initiated in 1976, focuses on the YARG priority of increasing agricultural production and improving rural income by concentrating on Yemen's two basic crops. (25)

- China, France, FRG, U.K., are helping in several agricultural projects especially in research and rural training. (25).

- Taiz water and Swerage Systems Design Project of US AID. Duration 3 years (1974-1977). (25)

8

COUNTRY : YEMEN ARAB REPUBLIC

AVAILABLE BACKGROUND
INFORMATION ON ENVI-
RONMENTAL SOURCES.

Surveys, reports, reserves and their availability :

See the references (sec. 9)

9

COUNTRY : YEMEN ARAB REPUBLIC

9. REFERENCES

1. UN/ECWA. Demographic and Related Socio-Economic Data-Sheets for Countries in the ECWA. No. 2. Beirut, Jan 1978.
2. Central planning Organization (CPO). Statistical Yearbook 1974-1975. Yemen Arab Republic.
3. "The Vancouver Grid". Government of the Yemen Arab Republic, (1976).
4. Central Planning Organization (CPO). The Three Years' Development Programme for Yemen Arab Republic 1973-76. CPO, April 1974.
5. WFP. "Housing Pilot Project for Settlement of new migrants - Sana'a". Project of the Government of the Yemen Arab Republic. (1976)
6. UNDP. "Institutional Support in Physical Planning (town and regional)". Project Document No. YEM/77/001. (Project of the Government of Yemen Arab Republic).
7. Report of "The Yemen International Development Conference. 28 Nov. - 1 Dec. 1977". Sana'a, Yemen Arab Republic, December 1, 1977.
8. MEED : MIDDLE EAST ECONOMIC DIGEST. London, 24 Feb. 1978.
9. Yemen Arab Republic. "Low Cost Housing and Slum Clearance Draft Request for WFP Assistance". 1976.
10. UNHHSF. "Report of a mission to the Yemen Arab Republic". August 1976.

9

COUNTRY : YEMEN ARAB REPUBLIC

9. REFERENCES.

11. ECWA/NRST Division. "The Status of Science and Technology in the Western Asia Region". Seminar on Technology Transfer and Change in the Arab Middle East. Beirut 10-14 Oct. 1977. E/ECWA/NR/SEM. 1/18.
12. UNHHSF. Project : "The provision to the Government of the Yemen Arab Republic Advice on Housing Administration and Housing Finance". 1976.
13. Central Planning Organization (CPO). The Housing and population Census. Yemen Arab Republic. Feb. 1975.
14. MEED : Middle East Economic Digest. London 14.4.1978
15. Ministry of Public Works (YAR). Project Document. Pilot Project for Settlement of New Migrants - Sana'a. (Request of the Government of YAR for WFP Assistance). June 1975.
16. Acra, Aftim. "Mission Report on Health and Working Conditions of PDRY. 23 Nov. - 19 Dec. 1976". Beirut, 1977.
17. MEED : Middle East Economic Digest. London 24.3, 1978.
18. ECWA. "Socio-Economic Effects of Desertification". Beiru, Feb. 1977.
19. FAO. An Analysis of a FAO Survey of post harvest Food Losses in Developing Countries. FAO, Rome 1977.
20. CASTARAB. ALECSO's Activities in the Field of Science and Technology in the Arab States (1974-77). Rabat, 16, 25 August 1976. SC. 76/CASTARAB/REF. 3.

9

COUNTRY : YEMEN ARAB REPUBLIC

REFERENCES

21. MEED : Middle East Economic Digest. London 21-4-78.
22. ECWA. "Survey Report on the Situation pertaining to the Development of Mineral Resources in the Countries of the ECWA Region". E/ECWA/NR/1/Rev.1, Beirut, 29-11-1977.
23. Ghaleb, M.A. "Employment problems and policies in the Least Developed Countries (PDRY, Oman, YAR)". ILO/ECWA Seminar on Manpower and Employment Planning in the Arab Countries. Beirut, 12-24 May, 1975. E/ECWA/ILO/WG.4/10.
24. El Bagouri, Ismail H. "Relevance of Agricultural Research in ECWA Region to Agricultural Problems". Seminar on Technology Transfer and Change in the Arab Middle East. Beirut, 10-14, Dec. 1977. E/ECWA/NR/ SEM.1/37.
25. UNDP. "The 1976 Development Assistance Report for the Yemen Arab Republic". Office of the UNDP R.R. Sana'a, 30 August, 1977.
26. "Laws for the protection of Coastal Zones and Fishing Laws", in the Yemen Arab Republic. A paper prepared for the Symposium on Environmental Considerations in Development Planning. Cairo 10-19 Jan. 1978. Jan 1978.
27. ECWA "The projection of Water Demands for ECWA Countries by the year 2000." A paper presented to the Second Regional Water Meeting. 30 Dec. 1978 - 3 Jan. 1979, Riyadh, Saudi Arabia. E/ECWA/NR/CONF.3/8, Dec/1978.
28. Khalil, M.A. "Report on a Survey Mission Relevant to Environmental Legislation in Yemen Arab Republic". 9 - 17 October. 1980.

PRODUCTION :
ORIENT PRESS
P.O.BOX - 1971
TEL - 343558
BEIRUT-LEBANON

