

CHAPTER 14

DEVELOPMENT AND THE ENVIRONMENT

14. DEVELOPMENT AND THE ENVIRONMENT

The management and protection of the environment have captured the interest of our world today in view of the problems many countries are facing in terms of ever-decreasing strategic reserves of natural resources. These problems are being compounded at the same time by increasing rates of population growth, pollution and environmental degradation, and the danger of extinction for some species.

From a developmental perspective, the environment is best considered as the stock of natural resources available to society over a given period for the satisfaction of human needs. As such, the environment and its resources constitute a basic and indispensable element in the development process in general, and in raising the standard of living and quality of life for citizens in particular.

A major recent development has been the realization on the part of the international community (of which the Kingdom is a part) that the development process cannot proceed indefinitely without due consideration being given to the sustainability of the natural resource base and the environment's capacity for re-generation and continuity. This remarkable breakthrough has found expression in the concept of "sustainable development" which was adopted by the entire world community of nations at the "Earth Summit" in Brazil in 1992, and which has been fostered as the internationally accepted approach to development in the next century and the remainder of this one. In brief, "sustainable development" links the human and natural environments so that available resources are used to meet present needs without jeopardizing the ability of future generations to meet theirs. If such a concept is to be applied, however, several basic principles and conditions must be met. These include:

- the optimal management and rational use of resources;
- the need to upgrade and develop human resources;
- the maximum participation of all members of society in the development process.

Conventional indicators of economic development are confined to monetary values and therefore exclude many factors that more truly reflect the living standards and quality of life of individuals in the local conditions pertaining in each society. A difficult task lies ahead in moving beyond these conventional economic indicators and in developing new concepts and indicators of sustainable development, which focus on the wider aspects of human welfare and the quality of life.

14.1 PRESENT CONDITIONS

Saudi Arabia's awareness of the important complementary nature of development and the environment is not new. The recognition and understanding of environmental issues and their significance for development emerged 15 years ago, in 1401, when the government established the Meteorology and

Environmental Protection Administration (MEPA), which was designated as the central government agency for the environment, in addition to its functions in the field of meteorological services. In response to the increasing interest in environmental concerns at the national level, the Ministerial Committee on the Environment (MCE) was formed in 1410 to act as the highest institutional authority responsible for setting environmental strategies and policies at national level, in addition to determining the Kingdom's international and regional viewpoints in this field. MEPA was assigned to undertake the tasks of the General Secretariat of the MCE and still plays its role in the daily operations of environmental management and in coordinating such matters at national level.

In support of this environmental work, the National Commission for Wildlife Conservation and Development (NCWCD) was established in 1406, as a specialized environmental agency responsible for managing a group of protected areas and implementing programs relating to the Kingdom's wildlife. It is also responsible for conducting biological research and using the results nationwide to protect and preserve rare and endangered zoological and botanical species. Finally, the NCWCD draws attention to wildlife-related environmental issues through environmental awareness campaigns and its participation at local and international conferences.

Through the Ministerial Committee for the Environment, the Kingdom has identified its future development priorities at the national level within the context and understanding of sustainable development. These priorities are included in "Agenda 21: Kingdom of Saudi Arabia". This document deals with the various development sectors in the Kingdom on the premise that the environment is the common denominator which links all sectors of development, with the emphasis on efficient and rational resource utilization, the development and upgrading of human resources, and increasing the contribution of individuals, private firms and institutions in the development process.

The Kingdom's approach in integrating both environmental and development objectives and their related activities is based on Islamic Sharia principles, which direct the individual to conserve and protect natural resources and to be wise and rational in developing the natural environment for the benefit of himself and future generations. Thus, the modern concept of sustainable development partly reflects this Islamic view on the relationship between man and the natural environment.

The major achievements at the national level in this field during the last few years can be summarized as follows:

- The development of environmental management institutions and a national framework for managing the environment, culminating in the formation of the Ministerial Committee on the Environment and its general secretariat in 1410;
- The Kingdom's effective participation in many international and regional fora on environmental issues, in particular the United Nations Conference on Environment and Development (the "Earth Summit") held in Rio de Janeiro, Brazil 1992;

- The distinguished effort in combating and controlling the largest ever oil spill in the Arabian Gulf after the Kuwait liberation war, and in protecting strategic utilities and facilities (Figures 14.1 and 14.2);
- The establishment of the Saudi Environmental Awareness project in cooperation with MEPA and the private sector through the Economic Offset Program; under this scheme -- a pioneer of its type in cooperation between the government and the private sector -- the private sector provided management and finance, while MEPA provided the necessary scientific and technical support;
- The development and upgrading of meteorological services provided to both civilian and non-civilian sectors;
- The conservation and expansion of the Kingdom's vegetational resources, through the activities of the Ministry of Agriculture and Water, including the plantation of more than 10,000 hectares of range and pasture lands, the re-plantation of 80 hectares of forests, and the distribution of 500,000 seedlings; in addition, the Ministry surveyed and classified 200,000 hectares of land and continued the maintenance and development of irrigation and drainage networks;
- The preservation and protection of wildlife by the National Commission for Wildlife Conservation and Development (NCWCD), including the establishment of ten wildlife reserves for rare and endangered species and three research centers;
- The implementation of several projects for the reduction of ground water levels by the High Commission for the Development of Riyadh; these projects covered around 40 percent of the affected areas in the city of Riyadh.
- The attention given to environmental affairs by a number of agencies and organizations in the industrial sector, and, in particular, to the application of measures pertaining to industrial safety; such agencies and organizations include the Ministry of Petroleum and Mineral Resources, the Ministry of Industry and Electricity, Saudi ARAMCO, the Royal Commission for Jubail and Yanbu, and SABIC.

14.2 KEY ISSUES

Indicators of Sustainable Development

Because it is confined to the measurement of market transactions that have monetary values, the traditional concept of national income cannot reflect many aspects of the quality of life, such as the negative effects of environmental pollution and the depletion of natural resources. Under Agenda 21 issued by the Earth Summit in 1992, the majority of nations have adopted the concept of *sustainable*

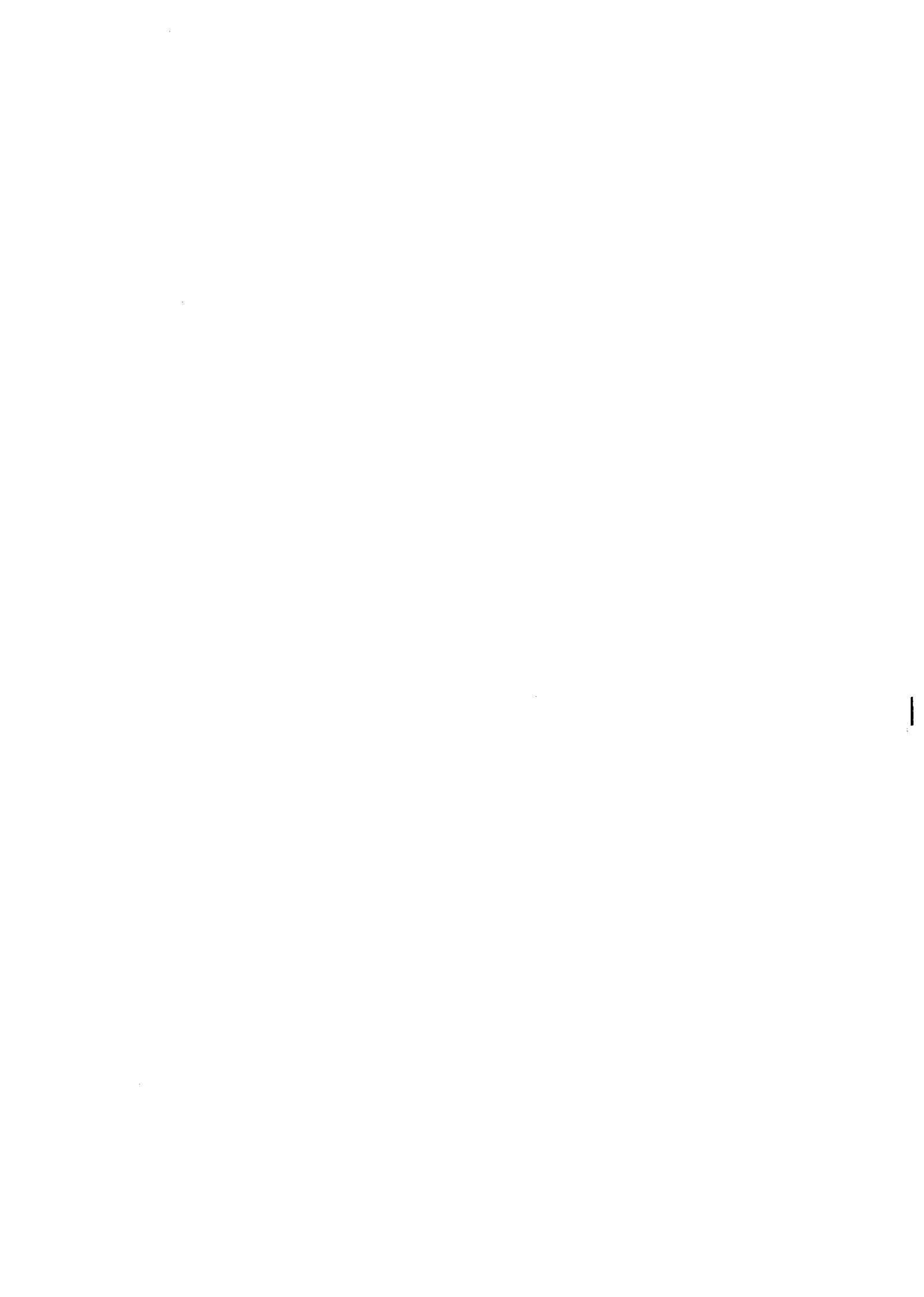


Figure (14-1)

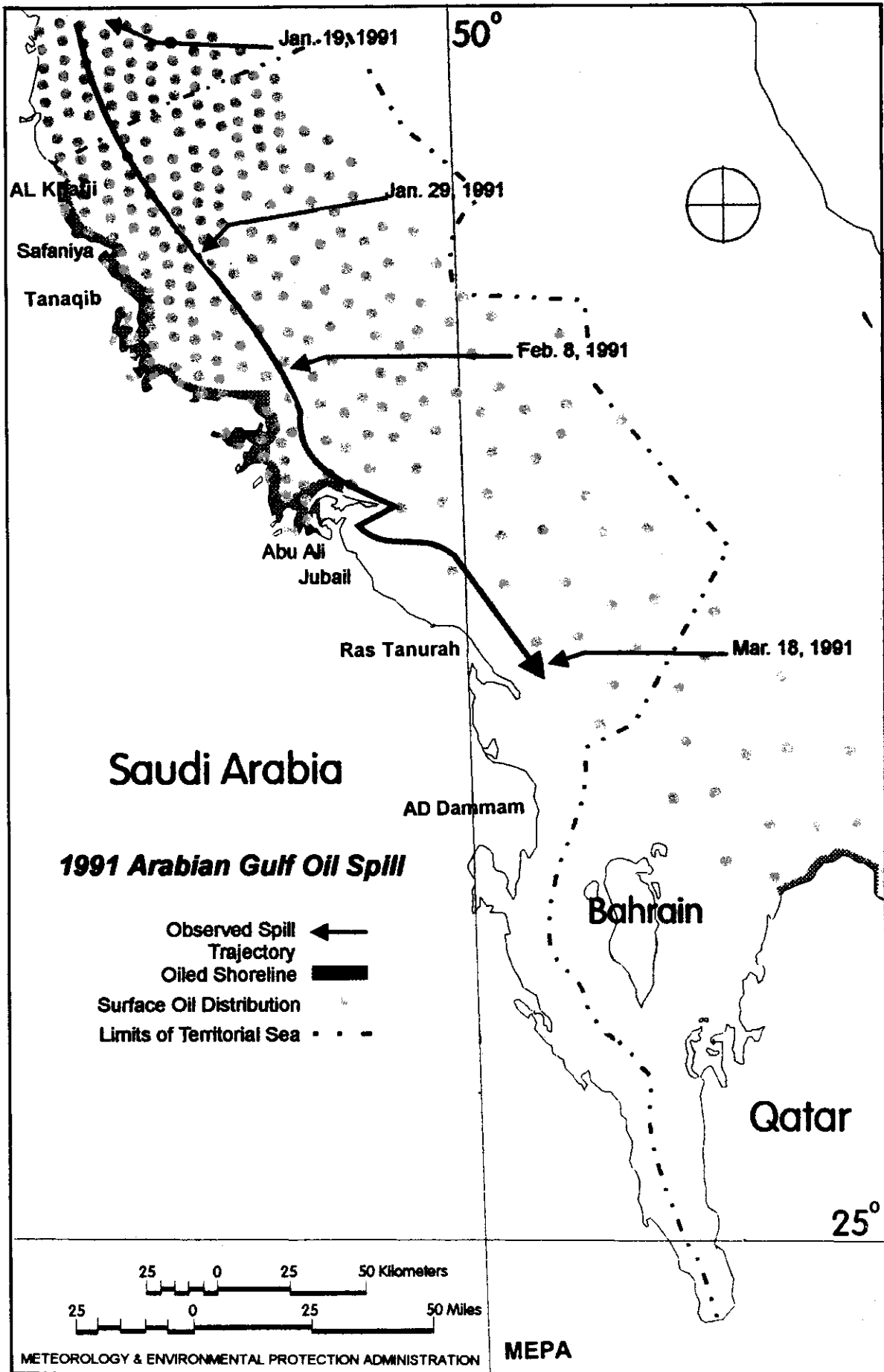
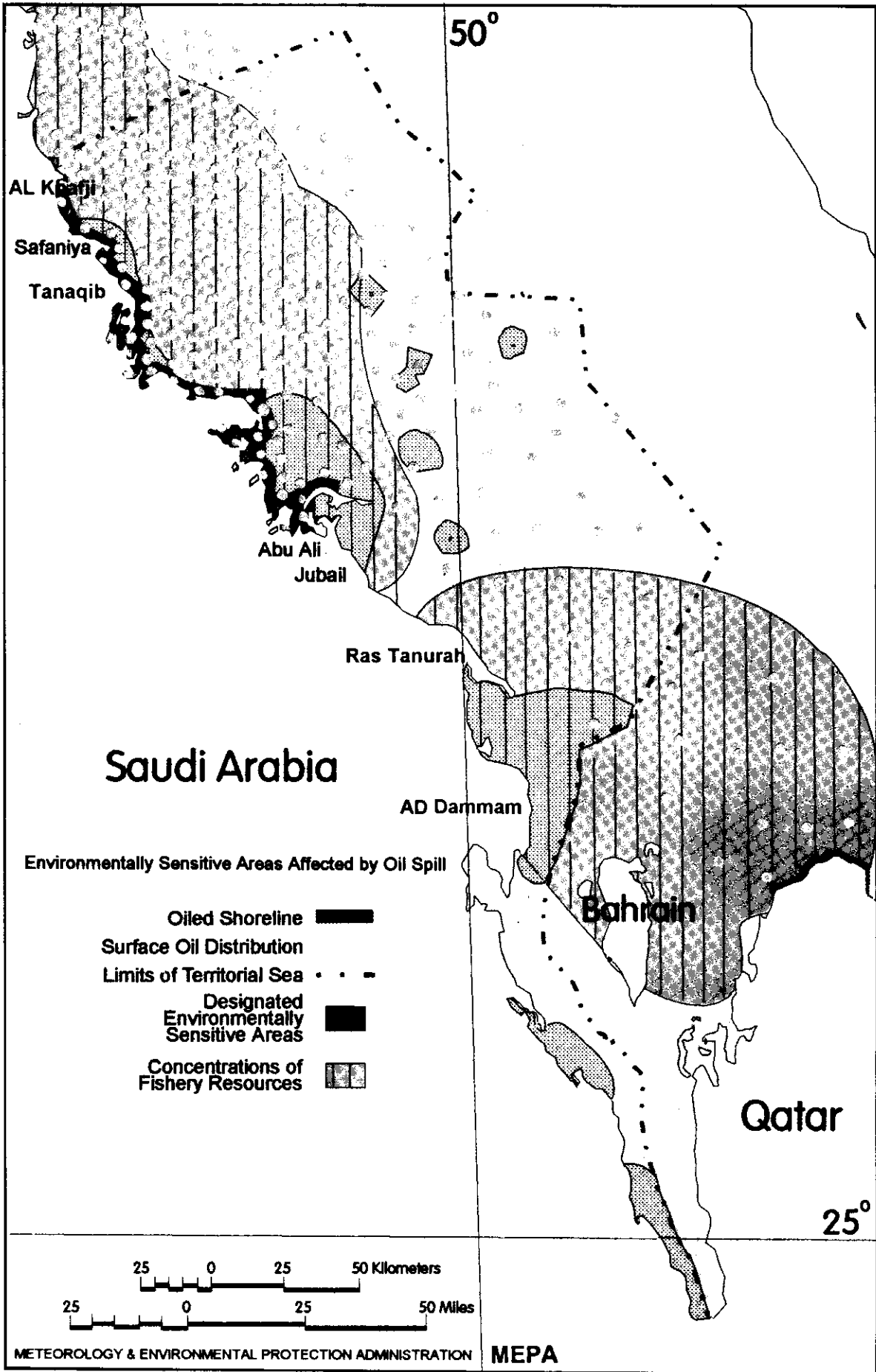


Figure (14-2)



development as the appropriate approach to development for the next century and the remainder of this one. Based on the Kingdom's work priorities under this program (Agenda 21: Kingdom of Saudi Arabia), it is imperative to develop a series of quantitative indicators for measuring and monitoring the activities of sustainable development, taking into account the efficient use of natural resources, their rates of regeneration and depletion, the absorptive capacity of the environment and the conformity of technology in use with the concept of sustainability. In order to prepare and develop these indicators, it is necessary that the national accounts system should include a form of natural resource capital account and a measurement of the extent of human resource development, as well as their impacts on the national economy. All concerned agencies will cooperate and coordinate in the development of such indicators during the Sixth Development Plan period.

Environmental Information and Data

There is a general shortage of environmental information and data at the national level. Addressing this issue requires close cooperation between all agencies entrusted with implementing environment-related activities, within an integrated and coordinated framework for determining the environmental indicators that need to be met in each field (water resources in qualitative and quantitative terms, waste lands, range lands, reserves, environmentally sensitive areas, and air, land, water and noise pollution). In this respect, there is also a need to identify unified standards for recording and measuring the environmental information needed to develop these indicators, and to assign relevant agencies to measure each indicator. All such steps are to be taken for the purpose of providing an environmental data base at the national level. Thus, it is of the utmost necessity that integrated information is made available to identify problems and address their various dimensions, and that a central agency be entrusted with coordinating the process of information collection and analysis and making this information available to other concerned agencies.

Waste Management

As a factor affecting the quality of life, the disposal of solid and liquid waste is an important issue confronting modern communities everywhere, and in this regard, Saudi Arabia is no exception. Waste comes in many forms (domestic, industrial, chemical, hazardous and non-hazardous) and is related to all sectors of the economy -- urban, industrial, agricultural and service sectors -- with varying impacts on the environment and human health. Up till now, there has been a fragmented approach to the collection, removal and disposal of certain types of waste, mainly those which are visible and have a direct impact on human activities. However, in many cases the disposal of such waste itself entails new problems, concerning its management, methods, locations and types of treatment. A comprehensive evaluation is needed concerning all methods of waste management and treatment. At the same time, efforts are

also needed to reduce the generation of such waste, through the adoption of cleaner and more efficient industrial processes that utilize fewer raw materials and the maximum possible volume of recycled materials. In fact, waste has to be viewed as a resource which, if managed correctly, can generate economic profits.

Air Quality

The rapid development of the Kingdom, particularly in urban areas, has been accompanied by a deterioration of air quality as a direct consequence of the massive increase in land transportation (cars, trucks and buses) and the associated growth in the emission of air pollutants. In addition to these mobile sources of air pollution, there has been the growth in stationary sources of air pollution, such as factories, desalination plants, power stations and oil refineries. Air pollutants generated by these sources depend on the quality and mix of fuel used and its efficiency, as well as the level of technology, design efficiency and operating cycles.

It is necessary, therefore, to increase the number of air quality monitoring stations in urban areas, particularly in densely populated areas, and to study the best methods of controlling pollutants from stationary sources. With respect to motor vehicles, there is an urgent need to switch to lead-free fuel and to adopt a plan for the use of catalytic converters, in addition to improved systems for managing traffic flows. Equally important to reducing the hazards of air pollution are the increase in vegetational cover, green belts and forestry plantation.

Fresh Water Resources

Water is a limited resource that is indispensable for human, plant and animal life, so it is important that this vital and essential resource be managed in a manner that rationalizes its consumption and secures its supply for future generations. As a result of agricultural development, population growth and improvements in living standards in the Kingdom, the growth in the demand for water has led to its partial depletion, particularly in the case of non-renewable fossil water which is the main source of fresh water supplies. Accordingly, it is necessary to encourage the rational consumption of water and its management by all sectors on a scientific basis that will ensure its conservation and limit its pollution through regular monitoring. Furthermore, there is a need to develop appropriate water quality standards and to enforce rules and regulations relating to these standards.

On the other hand, efforts are needed to develop water resources through the use of advanced technologies (such as cloud physics to increase the amount of rain) and to improve the recharge efficiency of ground water. It is also important to complete the infrastructure needed for the collection, treatment and re-use of sewage water in all regions of the Kingdom for agricultural and industrial purposes. In this respect, priority should be given to densely populated areas, so as to limit the problem of rising ground water levels in cities, and the severe health, economic and environmental consequences.

Management of Land Use and Combating Desertification

Alternative patterns of land use have important economic and environmental consequences. The classification and analysis of land according to its longer term potential productive capacity is now urgently needed, so that lands suitable for agriculture, pasture, forests, industry, recreation, conservation and preservation of biological diversity (bio-diversity) can be properly identified. Current problems affecting the quality of land in the Kingdom include the deterioration of vegetational cover due to wood cutting, over-grazing of livestock, soil erosion by wind and water, and the ever present threat of moving sand dunes, all of which lead to increased desertification and land contamination. Accordingly, an integrated national database should be established for soil, vegetational and livestock resources, so that long term national plans can be developed for the protection of lands, forests and vegetation, and the control of desertification. Several measures are now needed to limit the desertification process and the deterioration of soil and pastures, the most important of which are the prohibition of over-grazing and the rational use of pastures according to their regeneration capabilities, the control of wood cutting, and the plantation of trees along the coasts to be irrigated by sea water.

Land is also susceptible to pollution from the disposal of waste (particularly hazardous waste) and the excessive use of chemical fertilizers and pesticides. In order to avoid the problems of soil contamination, the use of chemical fertilizers and pesticides should be rationalized and an environmentally sound system for the management of waste adopted.

Management of Coastal and Marine Areas

The Kingdom's long coastline and extensive marine resources are particularly sensitive to environmental pressures from urban, industrial, agricultural, recreational and fishing activities, as well as from the operations of desalination plants, ports and oil drilling. Inevitably, a conflict arises between the need to develop and expand these activities and the need to protect the unique and precious environmental characteristics of these marine areas. A system for managing coastal and marine areas should be promptly developed, so that priorities of land use in coastal areas can be clearly identified, conflicts eliminated, natural resources developed and maintained, and the excessive use of these resources avoided. All relevant agencies should cooperate in the enforcement of such a system. Environmental indicators also need to be developed for these areas, through the collection and analysis of data at stationary and mobile research centers, so that the management system can be based on scientific evidence and so that corrective action can be taken when necessary.

14.3 SAUDIIZATION

Saudi nationals accounted for 94 percent of all employees at MEPA by the end of the Fifth Plan. Management positions are filled entirely by Saudis, while Saudis make up 87.7 percent of professional positions.

During the Sixth Plan, MEPA will meet its manpower needs through the placement of Saudis in all vacant posts. The overall Saudiization rate is expected to rise to 97.5 percent, while the percentage of professional positions filled by Saudis is expected to increase to 95 percent.

As for the NCWCD, the percentage of Saudis in the labor force reached 91.7 percent by the end of the Fifth Plan. Saudis occupied all management positions and 91.7 percent of professional positions. During the Sixth Development Plan, NCWCD will support its staff and the overall Saudiization rate is expected to rise to 95 percent.

14.4 PRIVATE SECTOR'S ROLE IN PROTECTING THE ENVIRONMENT

The responsibility for conserving and protecting the environment is not limited to the government alone, but is the responsibility of all citizens. According to the directives of the Custodian of the Two Holy Mosques, the active participation of citizens and private sector establishments in the various development activities should be encouraged. In particular, the private sector can make an important contribution to the goal of longer term sustainable development by engaging in the following activities during the Sixth Plan period:

- continuing its contribution to managing and financing environmental awareness activities in cooperation with the concerned government agencies who can provide the necessary scientific and technical support for such activities; in this regard, the establishment of voluntary non-profit organizations in the environmental protection field will be encouraged;
- establishing industries to produce environment-friendly products for which demand is already proven at the international level;
- providing environmental consulting services for both public and private sectors, and preparing environmental impact assessments for various government and private projects;
- following existing environmental protection regulations and guidelines with respect to the rational use of natural resources, limiting waste generation, and increasing operational efficiency;
- investing in activities which entail "environmental returns" in addition to their financial returns; examples include industrial projects for treating and recycling solid waste and waste water, and manufacturing equipment required by industry according to sound environmental standards; the development of national parks and recreational facilities and resorts should also be organized according to sound environmental principles.

14.5 DEVELOPMENT STRATEGY

Within the context of a long-term development strategy, all production and consumption activities in society should be re-oriented away from waste or misuse towards the conservation of natural resources and the elongation of their useful life-span. Emphasis should also be placed on enhancing the efficient utilization of these resources, avoiding their depletion and identifying long-run utilization priorities without compromising the right and ability of future generations to meet their needs. This approach is in accordance with Islamic values and teachings defining mankind's mission in this world. An appropriate portion of the financial returns and revenues arising from the exploitation of natural resources - especially depletable and non-renewable resources - must be invested in developing renewable resources, and in particular, human resources, as the development of human resource skills, capabilities and knowledge constitutes a renewable source of human capital. All of these measures are targeted to achieve balanced and sustainable development and to avoid the accumulation of environmental debt (natural resource indebtedness) resulting from the depletion and degradation of these resources.

The field of environmental management is one of the more recent fields requiring a long term strategic approach. Thus, suitably qualified personnel must be attracted into this field which has applications in all sectors of the economy, in terms of environmental considerations and the conservation of natural resources. However, responsibility for such efforts should not be confined to the government alone, as the private sector also has an enormous responsibility to attract qualified Saudis into this field and to develop their skills and knowledge through appropriate training.

From this perspective, the objectives, policies and programs of the Sixth Development Plan are as follows:

14.5.1 OBJECTIVES

Within the framework of integrating development and environmental objectives, all agencies - especially executive ones - will endeavor to achieve the following general and long-term objectives:

- To conserve and develop the environment, and protect it from pollution;
- To upgrade and enhance the quality of life and the well-being of citizens, and to ensure a pollution-free environment with pure air, clean water and healthy food;
- To achieve balanced and sustainable development by conserving natural resources, while reducing pollution and the over-use of such resources.
- To conserve, protect and develop the Kingdom's wildlife and to preserve the bio-diversity which forms an integral part its natural resources, within a framework for achieving balance between environmental and economic considerations, in addition to preserving rare and endangered botanical and zoological species.

14.5.2 POLICIES

The environmental impact of actions in one sector are often felt in other sectors, so that harmonious environmental policies must be adopted for all sectors of the national economy, and coordinated amongst many government agencies. Therefore, the coordinating function of MEPA is crucial to the consistent and general implementation of environmental policies that conform to the development activities of the Kingdom.

To achieve the environmental objectives, the sectoral agencies whose activities have an impact on the environment will implement the following policies during the Sixth Plan:

- Adopt a preventive approach that avoids or reduces environmental deterioration and pollution;
- Issue a national system for environmental impact assessments (EIA) to be adopted in projects undertaken in the various development sectors throughout the Kingdom, especially the industrial, agricultural and urban projects;
- Draft and complete an integrated set of environmental standards and specifications, and update them according to needs and progress, within the context of an integrated environmental system at national level;
- Taking environmental considerations into account in the various stages of development projects (i.e. planning, design, construction, operation) in all sectors, especially the producing sectors of agriculture and industry, whereby all projects shall be subject to environmental impact assessments;
- Take appropriate measures to maintain bio-diversity, preserve wildlife and conserve and manage natural resources according to the concept of sustainable development;
- Enhance environmental management and coordination at national level through:
 - ★ Completion and issuance of a national environmental code;
 - ★ Studying the feasibility of establishing an environment unit within each environment-related agency to coordinate the environment tasks within the agency and between the agency and the general secretariat of the Ministerial Committee for Environment and MEPA;
- Encourage the private sector to participate in environmental protection and pollution control activities, and encourage investment in environmentally oriented activities and industries, such as waste treatment and recycling plants, and to encourage the use of environmentally sound technologies;
- Develop manpower resources in the field of environmental science and attract qualified national manpower into the government and private sectors;

- Establish and manage the set of protected areas in a way that protects and develops the Kingdom's wildlife and preserves the diversity of botanical and zoological species and other natural resources;
- Support research and studies related to the proliferation and breeding of various wildlife species, in order to ensure their continuity and re-settlement in their natural habitats;
- Prepare a comprehensive national environmental awareness plan.

14.5.3 PROGRAMS

Meteorological Services: This program aims at the provision of meteorological and climatic services, the development of observatories at airports, the improvement of weather forecasts on air routes, the provision of information on weather conditions to pilgrims and citizens, and improving the efficiency of the meteorological data base for agriculture.

Environmental Protection: The aim of this program is to address all environmental issues in a comprehensive manner, through the identification and follow-up of environmental problems at national level, contributing to the control of all environment pollution, and boosting citizens' environmental awareness.

Protected Areas: This program aims at the management and operation of a series of protected areas through intensified protection measures therein, as well as the implementation of procedures for re-settling various rare and endangered animal species in their natural habitats.

Information and Environmental Awareness: This program aims to provide information and raise citizens' awareness at all levels about the environmental significance and beauty of wildlife, and to provide them with opportunities for positive responses to the activities of NCWCD through information campaigns, specialized films and scientific symposia.

14.6 GROWTH TARGETS IN THE SIXTH PLAN

Within the long-term general objectives of the environment sector, several environment-related agencies will cooperate in implementing the following targets during the Sixth Plan:

- To achieve a permanent balance between population distribution and the environment's absorptive capacity, with due regard to the effects of population growth and changing consumption patterns on the natural resources base;
- To attain the highest possible level of food production within the limit of available natural resources, particularly water, without damaging or severely depleting the existing non-renewable resource base;

- To use the most advanced and environmentally sound technology, in the field of industrial development so as to avoid pollution and rationalize the use of resources and raw materials at all stages of the production process, i.e. in design, construction and operation.
- To issue a national system for environmental impact assessments to be adopted by the various development sectors throughout the Kingdom, particularly for industrial, agricultural and urban projects.
- To develop and finalize a set of environmental standards and criteria to be updated in response to changing needs and developments, in the context of developing an integrated environmental code at national level.
- To provide environmentally clean energy sources for all production and consumption activities, such as low-pollution fuels for factories, desalination plants and electric power plants, as well as lead-free fuel (gasoline) for domestic consumption.
- To continue the development and breeding of wildlife species in the Kingdom, and their re-settlement in their natural habitats.

APPENDIX

KINGDOM OF SAUDI ARABIA
MINISTRY OF PLANNING

**General
Objectives
and
Strategic
Bases
of the Sixth Development Plan**

1415 - 1420 A.H.
1995 - 2000 A. D.

IN THE NAME OF ALLAH
THE COMPASSIONATE
THE MERCIFUL

Kingdom of Saudi Arabia
General Secretariat of
The Council of Ministers

Decree No. (142) of 19/11/1413 H

The Council of Ministers,
Having considered the recommendation of the
General Committee of the Council of Ministers,
No. 230 of 25/10/1413 H;

Hereby Decrees:

First: Approval of the General Objectives and Strategic Principles of the Sixth Development Plan (1415-1420) according to the text attached herewith.

Second: The order of priorities in the Sixth Development Plan shall be as follows:

1. To continue supporting and enhancing the ongoing development of the Kingdom's own defense capabilities, and to deepen citizens' loyalty and sense of belonging;
2. To rationalize government expenditure and make the national economy more dependent on private sector activities, through:
 - a. Upgrading administrative efficiency and productivity in government agencies to reduce government expenditures, without affecting the standards and availability of services;
 - b. Developing additional policies to encourage private sector capital participation in national investment within the Kingdom;
 - c. Expanding the utilization of Saudi private sector capital in financing some government projects;
 - d. Considering the feasibility of privatizing some government business-oriented activities.
3. To adopt the necessary measures for addressing the constraints which impede the development and employment of Saudi human resources, particularly through:

- a. Laying more emphasis on the quality of general education, higher education and training;
 - b. Concentrating the efforts of education and training on those fields of specialization which meet the requirements of the private sector;
 - c. Increasing the absorptive capacity of universities in those fields of specialization which meet the requirements of development; and increasing the absorptive capacity of technical education and vocational training institutions, as well as the technological colleges, to ensure that the number and quality of graduates are commensurate with the requirements of the national economy;
 - d. Developing the necessary policies for replacing non-Saudi manpower with Saudi manpower;
 - e. Adopting appropriate policies to stimulate the private sector to provide employment opportunities for Saudi citizens.
4. Adopting appropriate means to achieve steady expansion in infrastructural facilities in line with the increased demand resulting from growth of population and settlements, and in accordance with the above-mentioned priorities and the nature of the infrastructure facility.

Fahd Bin Abdul Aziz
Chairman of the Council of Ministers

THE GENERAL OBJECTIVES AND STRATEGIC
BASES OF THE SIXTH DEVELOPMENT PLAN
FOR THE KINGDOM OF SAUDI ARABIA
(1415 - 1420 A. H.) ARE AS FOLLOWS:

1. To safeguard Islamic values by duly observing, disseminating and confirming Allah's Sharia (God's Divine Law);
2. To defend the Faith and the Nation; and to uphold the security and social stability of the Kingdom;
3. To form the productive national citizen through providing him with the appropriate means and sources of income, and ascertaining his reward on the basis of his work;
4. To develop human resources and continually ensure an increasing supply of manpower, upgrading its efficiency sufficiently to meet the requirements of the national economy, and replacing non-Saudi manpower with suitably qualified Saudis.
5. To achieve balanced growth throughout all regions of the Kingdom;
6. To continue encouraging private sector participation in socioeconomic development;
7. To reduce dependence on the production and export of crude oil as the main source of national income;
8. To continue restructuring the Kingdom's economy through continuing diversification of the economic base, particularly through laying more emphasis on industry and agriculture;
9. To develop mineral resources and to encourage discovery and utilization thereof;
10. To concentrate on qualitative development of already existing utilities and facilities by improving their level of performance;
11. To complete infrastructure projects necessary to achieve overall development;
12. To promote scientific activity and to raise cultural and informational standards to keep pace with the Kingdom's development;
13. To achieve economic and social integration among the Gulf Cooperation Council (GCC) countries, and to strengthen economic cooperation with Arab, Islamic and friendly countries.

First Basic Strategic Principle

Continue to consolidate the presence of a protective defense and security system, to further the continuous development of the Kingdom's intrinsic defense capability, and to forge ahead with inculcating an ever-deepening sense of loyalty and belonging on the part of the individual citizen. The defense and security authorities shall formulate a strategy that will form the basis of an adequate plan for the defense and security of the nation, and shall submit that strategy to the National Security Council prior to presenting it for consideration by the Council of Ministers.

Second Basic Strategic Principle

Concentrate on improving the economic and productive standards of the services, utilities and products which the government provides for citizens -- both directly (such as education and security services) and indirectly (such as electricity, transportation and basic commodities).

Economic performance may be improved by means of:

1. Reducing production costs of public services and utilities;
2. Ensuring that services are appropriate and not excessive: for example, by confining specifications for construction or operation of projects to what is actually required;
3. Utilizing advanced technology in all public service sectors through mechanization and the use of advanced methods;
4. Concentrating on those technologies that are relevant for the needs of the national economy such as automation, use of saline water in agriculture, and other methods;
5. Assessing the economic feasibility of projects of all types by considering not only construction costs, but also operational and maintenance, as well as management costs;
6. Encouraging and providing incentives for the public to invest in feasible and worthwhile industries dependent on local raw materials, and relying on production methods which require minimum labor and minimum quantities of critical natural resources such as water;
7. Emphasizing diversification of the productive base in agriculture, by encouraging investors to establish companies to engage in large-scale feasible agricultural projects using renewable water resources and modern irrigation methods that minimize water consumption, while at the same time encouraging individual investors in agriculture;
8. Supporting the trend to invest in projects applying new technologies for which the Kingdom has economic advantages or which are badly needed, such as solar energy projects, modern irrigation methods and the use of greenhouses;
9. Supporting centers and programs for applied research;
10. Making full provision in all project costs for all necessary maintenance and operational requirements, while minimizing maintenance requirements at the project design stage;
11. Adopting preventive maintenance programs based on asset life span and its utilization rate;
12. Standardizing the technical specifications of projects to facilitate reduced maintenance costs;
13. Developing training programs for machine operation, thereby reducing operational errors;

14. Including general principles of maintenance as part of the educational curricula for the post-elementary stages, to enable individuals to carry out simple maintenance tasks and understand general safety principles;
15. Encouraging the private sector to invest in maintenance projects;
16. Continuing the development of appropriate administrative and financial organizations to serve the new needs of the community.

Third Basic Strategic Principle

Continue the policy of giving the private sector the opportunity to undertake many of the economic tasks of the government, while ensuring that the government does not engage in any economic activity that can be undertaken by the private sector.

This policy may be implemented through:

1. Giving the private sector the opportunity to operate, manage, maintain and renovate many of the utilities currently operated by the government, on condition that this would result in lower costs, better performance and employment opportunities for Saudi citizens;
2. Offering for public subscription at the appropriate time the shares of companies established by the government to develop basic industries, thus giving the private sector the opportunity to participate in the ownership and management of these industries;
3. Continuing the reconsideration of some of the prevailing methods, policies and regulations in the state to enable the private sector to operate with greater freedom and flexibility, to achieve higher performance standards and to become more creative. These considerations include: the equitable adjustment of price control, thus ensuring fairness to consumers and investors alike; and the continued improvement of procedures for commercial courts and notary public offices etc.;
4. Continuing the encouragement of co-operatives, as well as private benevolent and commercial societies and institutions to undertake social and economic projects, such as the management of private sanitararia, hospitals and clinics, and the building of premises for charitable institutions, tourist and recreational centers;
5. Urging commercial banks to extend more credit facilities to production projects instead of concentrating on the import trade;
6. Encouraging the incorporation of more joint stock companies to undertake large projects with economies of scale, so that the greatest number of citizens may benefit from such investments;

7. Continuing the development of the financial market for trading shares, under the continued supervision of the state in order to avoid the dangers of speculation;
8. Encouraging the private sector to participate in the formulation and implementation of training programs;
9. Making information more widely available to citizens by increasing the quality and frequency of special programs which identify investment opportunities in the producing sectors;
10. Carrying out a greater number of studies of investment and marketing opportunities and of the feasibility of projects in the producing sectors;
11. Acquainting investors regularly with results of official studies relating to mining and encouraging them to undertake the utilization and development of available minerals; allowing companies to invest in minerals that have been discovered; and encouraging investment in mining through such means as the provision of basic infrastructure;
12. Continuing to give priority to qualified and classified Saudi contractors in the implementation of various projects. Foreign companies awarded contracts must be required to sub-contract a proportion of the work to Saudi contractors and employ and train a specified proportion of Saudi citizens;
13. Ensuring that projects, whenever technically or economically feasible, are divided into multiple contracts or sub-projects, thus enabling the participation of Saudi companies in their execution;
14. Promoting the incorporation of national financial institutions for the investment of (private) funds within the Kingdom;
15. Enhancing and supporting research and development activities in private sector industrial and productive institutions;
16. Facilitating and encouraging the participation of the private sector in providing opportunities for scientists and researchers to conduct scientific and technological research, with the cooperation of the King Abdulaziz City for Science and Technology (KACST) and of the universities, and with particular emphasis on applied research.

Fourth Basic Strategic Principle

Rationalize the system of direct and indirect subsidies provided by the state on many goods and services through:

1. Studying the system of subsidies granted by the government for goods and services and identifying ways to rationalize their consumption without harming those on lower incomes;

2. Ensuring that all government departments which administer public services make economic efficiency fundamental to their operations by adopting two basic principles:

First: the cost to the Saudi community of producing such services should be reduced;

Second: the prices of such services should not be less than their production costs, except in rare cases -- and with the provision that they should be periodically reviewed.

Fifth Basic Strategic Principle

Economic rationality should predominate in the government's investment and expenditure decisions.

In practice, this means:

1. Considering water as a basic factor and an important determinant of efficiency in government projects, as is the case with expatriate labor or inflation;
2. Developing economically promising natural resources such as the exploration of mineral and marine resources, the mapping of their location, their further development and utilization, and the processing of available natural gas to the maximum extent possible;
3. Expanding -- both horizontally and vertically -- the petrochemical industries, as well as the production of gas and petroleum derivatives, through the private sector or joint-venture companies, whenever economic feasibility is proven;
4. Maximizing the capacity for producing refined petroleum products within the bounds of economic feasibility.

Sixth Basic Strategic Principle

Continue the development of Saudi manpower, through the meticulous evaluation of educational curricula and training programs and implementing the developments or modifications suggested by this evaluation in conformity with Islamic Sharia, the changing needs of society, and the requirements of the development process. This continuing development of Saudi manpower can be achieved by:

1. Making primary education mandatory for all boys and girls;
2. Identifying, at each educational stage beyond the intermediate level, the proportion of students qualified to receive higher education, so that the remainder can be guided towards specialized technical institutes, as well as military and security police institutes;

3. Guiding admissions policy in the universities in conformity with the requirements of the development process in the long-run, and developing educational systems, curricula and programs accordingly;
4. Ensuring integration and flexibility between all levels of education;
5. Continually updating curricula and methods of teaching;
6. Giving priority to technical labor force development through the expansion of technical education and vocational training;
7. Limiting university bursaries to those fields of specialization (including technical education and vocational training) identified as deserving incentives;
8. Paying attention to the quality of training by concentrating on the use of advanced technology at the intermediate and advanced levels;
9. Ensuring conformity of training programs, in terms of quality and quantity, to the actual needs of the economy;
10. Placing great emphasis on libraries in order to encourage and accustom students to make use of such facilities;
11. Paying attention to extra curricular activities at all levels of education.

Seventh Basic Strategic Principle

Replacing non-Saudis with appropriately qualified and willing-to-work Saudi manpower in all occupations through:

1. Providing information through the public media, stressing the religious and social value of work as an important and respectable activity, in order to change attitudes towards certain occupations which at present are not acceptable to some individuals;
2. Providing labor market information on a regular and orderly basis for individual members of the labor force and employers, as well as students and educational and training institutions, to enable the right choices to be made regarding appropriate trades and professions;
3. Finding suitable means to encourage the private sector to provide job opportunities for those citizens who want employment;
4. Encouraging the private sector to concentrate on specialized training and on-the-job training;

3. Increase attention for the handicapped and introduce national programs for their rehabilitation and welfare;
4. Introduce compulsory military service;
5. Introduce some basic military principles into the secondary school curriculum;
6. Combat, and ultimately eliminate, illiteracy according to a scheduled plan;
7. Give more attention to local community programs based on the effective participation of citizens in the planning and implementation of local projects;
8. Give attention to primary health care, preventive medicine and health education; increase the effectiveness of preventive and curative institutions in protecting the citizens; and widen the scope of health programs;
9. Improve the capabilities of individuals to increase their income, thereby promoting social balance;
10. Pay more attention to social care programs in all fields and induce private sector participation by encouraging the establishment of yet more private benevolent societies;
11. Encourage the contribution of citizens to urban improvement, landscaping and the establishment of parks;
12. Pay greater attention to youth welfare programs, to developing the capabilities of young people, and to enabling them to gain mental and physical skills in the fields of culture, science and sports;
13. Give due care to matters of industrial safety and occupational health in both public and private sectors.

Ninth Basic Strategic Principle

Achieve balanced development in all regions of the Kingdom by:

1. Establishing development centers as the bases for regional development. These centers should be identified in accordance with selected criteria.
2. Ensuring efficient use of existing facilities and services in all regions of the Kingdom.

Tenth Basic Strategic Principle

Safeguard and enhance the natural environment and prevent pollution by implementing the following policies:

1. Protecting the environment and safeguarding its natural characteristics, in addition to the maintenance of natural resources;

5. Increasing the participation of women in the national work force in accordance with the teachings of Islam (the Sharia);
6. Continuing to place qualified and trained Saudi manpower where they can run vital facilities;
7. Continuing to place Saudi citizens to administer government agencies;
8. Concentrating manpower recruitment from abroad on qualified personnel;
9. Giving more support to services provided by the state for workers and citizens seeking jobs.

Eighth Basic Strategic Principle

Give attention to the development of Saudi society; to the provision of social welfare and health care for all; and encourage society's participation in implementing the programs of the Development Plan, as well as in reaping the benefits of development.

It is therefore necessary to:

1. Create an awareness amongst Saudi citizens of the objectives and requirements of development and of how best to handle its tools.

This calls for:

- improving information flows and strengthening the means of disseminating information;
 - the promotion of cultural activity by encouraging literary authorship, translation work, the spread of public libraries, the establishment of museums and the preservation of historical and archaeological sites;
2. Provide enhanced care for children in all fields and at all levels, by:
 - enlightening mothers about various aspects of child care and eliminating illiteracy amongst mothers;
 - developing care programs for juvenile delinquents;
 - stressing the importance of "mother and child" health care; and aiming at the complete coverage of child immunization against infectious diseases;
 - providing space in public libraries for children;

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2. Protecting and developing wildlife in the Kingdom, together with preserving the natural equilibrium of its ecology in terms of the genetic diversity of its zoological and botanical makeup;
3. Maintaining continued equilibrium with regard to optimal population distribution and environmental integration -- taking into consideration the impact of population growth and consumption patterns on natural resources;

Eleventh Basic Strategic Principle

Adopt a fiscal policy which keeps the level of government expenditure in line with government revenues during the entire Sixth Development Plan period, through the following:

1. Studying the optimum ways of increasing government revenues and reducing government expenditure -- on condition that such measures will not cause undesirable social and economic effects -- with due emphasis on:
 - (a) Raising performance standards in government agencies by reducing government spending without affecting the scope and quality of services offered to citizens;
 - (b) Establishing rules and regulations for financing sundry development programs and projects by the private sector acting under state supervision;
 - (c) Developing privatization programs for some government projects in the utilities and other services, and specifying other activities that could be carried out by the private sector;
 - (d) Reviewing and further developing the rules and regulations pertaining to non-oil revenues.
2. Ensuring that programs and projects are implemented in accordance with the development plan objectives and strategic principles;
3. Ensuring that projects are implemented with due consideration to the operation, maintenance, replacement and management costs throughout the life span of each project;
4. Continuing to adopt policies aimed at keeping inflation at the lowest possible level.