

JORDAN

Desertification

Government focal point: Ministry of Environment

- **Strategic planning frameworks for the protection and sustainable management of natural resources in deserts and areas affected by desertification, their integration into national development strategies and/or action plans.**

Planning and policy formulation in Jordan prior to the 1990s were based on sector-specific approaches with little consideration for environmental concerns. It can be stated that environmental planning and policy formulation came to age in 1991 when the National Environmental Strategy (NES) was formulated by a national consultation process led by the Ministry of Municipalities, Rural Affairs and the Environment.

The NES was the first environmental strategy in Jordan and in the Arab region. It has responded in content and recommendations to a large extent to the famous "World Conservation Strategy" of 1980 that was formulated by IUCN, UNEP and WWF.

Based on the NES, Jordan was in a good political and strategic position to sign and then ratify the Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC) in 1992 during the Earth Summit. Two years later, Jordan signed and then ratified the UN Convention to Combat Desertification (UNCCD) in 1996.

Completing most of its international obligations and on the foundations of the NES, Jordan opted to develop a practical environmental action plan in 1995. The National Environmental Action Plan (NEAP) was also prepared in a national consultation process coordinated by the Ministry of Planning and International Cooperation and it included a prioritized action plan based on results.

The NEAP remained to be the environmental guidebook in Jordan, with most of its proposed project either implemented or under implementation. In 2000 Jordan launched its multi sectoral National Strategy for Sustainable Development which was called "National Agenda 21" with technical and financial support from UNDP. The National Agenda 21 involved the participation of numerous organizations and individuals and was the most

important participatory and learning-by-doing policy formulation effort in Jordan to date.

Between 1998 and 2005 an array of sectoral policies, strategies and action plans were developed and paved the ground for a solid policy framework. A total of 16 environmental related policies and action plans (Table 1) were developed between 1998 and 2006 covering water, poverty, agriculture, tourism, biodiversity, energy, youth, socio-economic development plan, childhood and desertification.

In 2005 however, Jordan embarked on the most promising and inclusive national planning process by developing the " Jordan National Agenda" which is a blueprint for political, economic and social reform and development covering almost all sectors of national development. The National Agenda included a specific sector on environmental sustainability. The National Agenda is considered as the basis of public long-term planning and included various performance indicators.

Table 1 shows a chronology of environmental and sector-specific planning in Jordan from 1991-2006:

Policy	Issued by	Year
National Environmental Strategy	Ministry of Municipal, affairs and environment	1991
National Environmental Action Plan (NEAP)	Ministry of Planning	1995
Water Strategy and policies	Ministry of Water & Irrigation	1998
National Agenda 21	General Corporation for Environmental Protection	2000
Poverty Reduction Strategy	Ministry of Social Development	2001
National Strategy for Agricultural Development	Higher Socio-economic council	2002
Biodiversity Strategy and Action Plan	Ministry of Environment	2002
National Strategy for Tourism	Ministry of Tourism	2004
National Youth Strategy	Higher Council for Youth	2004
National Population Strategy	Higher Council for Population	2004
National Energy Strategy	Ministry of Energy	2005
Childhood Strategy	National Council for	2005

	Childhood	
National Strategy and Action Plan to Combat desertification	Ministry of Environment	2005
The National Agenda	Royal National Agenda Committee	2005
POPs National Implementation Plan	Ministry of Environment	2006
National Capacity Self Assessment (NCSA) for Global Environmental management action plan	Ministry of Environment	2007
National Strategy and Action Plan for Drought Mitigation	Ministry of Environment	2007

Following is a more detailed descriptive analysis of the sustainable development policies

1- National Environmental Strategy:

The National Environmental Strategy (NES) which was prepared in 1992 with support of IUCN and USAID was the first important step carried out to confront environmental problems. Formulated by some 180 Jordanian specialists, the NES catalogued all environmental pressures and problems and contained more than 400 specific recommendations and suggested actions in the field of environmental protection and conservation.

In a document of ten thematic chapters, five strategic directions for action were recommended under the NES:

- a) The constitution of a legal framework for environmental management including the enactment of a comprehensive environmental law and complementary environmental legislation and the creation of a national environmental impact assessment process.
- b) Strengthening institutions working for environmental protection and conservation including funding staffing training equipment educational outreach and legal authority. This should include the environmental agency key line ministries and NGOs.

- c) Focusing on cross-sectoral priorities such as water resources management and population expansion, which will have serious long term impacts if not addressed urgently.
- d) Managing protected areas, including the creation of new natural reserves and a marine national park in Aqaba, to complement the existing reserves and the rehabilitation of the core area of the Azraq oasis.
- e) Fostering public additional environmental and conservation education environmental health awareness mechanisms for public participation in natural resources environmental decision making (EIA process), and creation of a system of urban nature parks and green spaces.

However, the NES exhibited major shortcomings and did not set priorities among the suggested actions. The financial costs did not consider institutional capacity issues and lacked the linkages with other national policies and strategies. The absence of prioritization has caused various governments in Jordan to spread thin its limited resources over a wide range of environmental initiative without a clear perspective on their cost effectiveness.

The NES included specific chapters on agriculture and land management, water resources, wildlife habitats, coastal areas and marine environment and energy. The thematic categorization by the NES was very helpful in developing a scientific policy framework for future policies and action plans in Jordan.

2. National Environmental Action Plan:

The National Environmental Action Plan provided a comprehensive assessment of environmental problems and remediation opportunities in Jordan, combined with a prioritized and phased plan of action for addressing the issues. The NEAP identified 41 environmental priorities needs, which included the needs of four cross-sectoral environmental management capacity building and 37 sectoral environmental actions. Immediate attention was recommended for a “short list” of 19 priorities that were clustered under four projects related to desertification and land degradation which were:

1. Development of a national land use planning/zoning system
2. Management of agricultural plastic waste
3. Preservation of forest lands

4. Urban and regional land use planning

3. National Agenda 21:

Jordan has prepared in 2002 its National Agenda 21 document under the supervision of the General Corporation for Environment Protection (Currently MOE) and the assistance of UNDP. The document outlined several key areas directly related to natural resources, dry land issues and energy. The Agenda called for promoting the participatory approach at all levels to ensure success and sustainability. The Agenda also *reflected the integrated approach to environment and development and converged with objectives of poverty alleviation and sustainable human development*. In summary, Agenda 21 outlined a multi-disciplinary national plan of action for an environmentally sound and sustainable economic development. The *Agenda 21 demonstrated an umbrella document that identified combating desertification as a national priority* and promotes its integration into the national policy and called for the involvement of all stakeholders in the implementation of proposed programmes and actions. The agenda proposed a number of projects based on a set of priorities that were identified following a thorough review of public needs in general, and the environmental sector in particular. The Agenda 21 process also depended largely on information, and produced two strategies for environmental information and awareness that were annexed to the main Agenda 21. The Agenda 21 introduced the concept of "integrated resource management" by linking the sectors of water resource management, land resource management, agricultural resources, energy resources and mineral resources in one chapter. The outline of the Agenda 21 failed to integrate biodiversity issues within the "integrated resource management" section and placed biodiversity under the section on "natural and cultural heritage" providing little conceptual linkages with natural resource management. The issue of desertification was addressed specifically in section 1.2 on land resources and was supported by other sections on rangeland resources management, agricultural land use and alleviation of land degradation. The section on alleviating land degradation focused on measures against soil erosion, soil pollution, mining spills and enhancing urban planning issues.

For combating desertification, the National Agenda 21 proposed the following strategic objectives:

- 1- Developing a methodology for addressing and mapping the dynamics of desertification, and the processes and hazards in each ecological zone in Jordan.
- 2- Setting up criteria to determine priority areas to combat desertification.
- 3- Diversifying the income of people to mitigate poverty and reduce pressure on land resources.
- 4- Adopting sustainable land use plans and sustainable management of the water resources with aid of contemporary tools of remote sensing and GIS.

Regarding rangeland development, the following objectives were proposed:

- 1- Increasing the productivity and improving the management of rangelands on a sustainable basis, through management techniques, involving studies, installation of native species and other fodder species in association with water harvesting and other soil treatment techniques.
- 2- Strengthening capacity building by setting-up appropriate training, planning and management units, a research unit and improving capacities of human resources.
- 3- Ensuring a sustainable utilization of the forest and range resources by the design and implementation of rational management systems, which will provide employment, help to enhance people's participation and develop income generation activities for the rural communities.

4- Water Strategy and Policies:

Due to the increased demand on water and the scarcity of its supply, the Ministry of Water and Irrigation (MWI) adopted a Water Strategy in 1998. The strategy stresses the need for improved water resources management with particular emphasis on the sustainability of present and future uses. Special emphasis was given to protect Jordan's water resources against pollution, quality degradation, and depletion. Furthermore, MWI was supposed to sustain the highest practical efficiency in the conveyance, distribution, and application and use of water resources. In addition, MWI was expected to adopt a dual approach of demand management and supply management, with tools of advanced technology being increasingly utilized to enhance the resource management capabilities.

The Water Strategy ensures that the rightful shares of the Kingdom's shared water resources shall be defended and protected through bilateral and multilateral contacts, negotiations, and agreements. Water and wastewater projects associated with regional peace processes, including the scheme for the development of the Jordan Rift Valley, shall be accorded special attention for construction, operation and maintenance. Due respect will be given to the provisions of international law as applicable to water sharing, protection and conservation, and those applicable to territorial waters. Bilateral and multi-lateral co-operation with neighboring states shall be pursued, and regional co-operation shall be advocated.

The strategy defined the long-term goals that the government of Jordan seeks to achieve in the water sector. The strategy was supplemented with different water policies in four water sectors aiming to make a balance between water demand and supply and emphasizing the role of private sector and attracting private investment into the economy.

The four policies are related to: groundwater management, irrigation water, water utilities and wastewater management. Other aspects of the policy address: Legislation and Institutional Arrangements; Standards, Regulations and Quality Assurance; Research and Development; Financing and Investment; Public Sector Participation; Human Resources Development; and Public Awareness.

The groundwater management policy addresses the management of groundwater resources including development, protection, and management. The policy main goal is to reduce abstraction for each renewable aquifer to sustainable rates. The main points included in the groundwater policy are:

- Protect recharge area from pollution, prohibition of well drilling and groundwater abstraction without licenses, and monitor withdrawal from non-renewable aquifers.
- Emphases upgrading water quality laboratories and improved quality control and assurance.
- Regulate application rates of chemical and fertilizers use in agriculture within areas of aquifer recharge in the cooperation with the MOA.
- Encourage the use of marginal groundwater quality for agricultural uses especially when such use may relieve pumping from fresh groundwater aquifers.

- Legal action is to be taken against illegal drilling, rigs and violators
- Legislation and institutional arrangements for the development and management of groundwater resources shall be reviewed from time to time. Shortcomings and institutional arrangements shall be updated, and adjusted or restructured.
- Encouragement of Private Sector to cooperate in the rehabilitation of aquifers where needed,

The irrigation water policy addresses irrigation water issues including agricultural use, resource management, technology transfer, water quality and efficiency. Irrigation water that has immense social value should be managed as an economic commodity so that water price has to cover at least operation and maintenance costs and as far as possible capital costs. In addition, different prices should be applied for different water quality. The policy specified also preferential rates for small scale farmers in the Jordan Valley where the income is lower than other regions in the country. The following issues have been highlighted by the irrigation policy:

- With respect to private sector participation, the policy states that the existing areas of irrigated agriculture shall be granted the chances for sustainability.
- Irrigation water sources shall be protected against pollution, which is hazardous to the soils environment, or can endanger animal health, particularly livestock.
- Co-ordination with the MOA and its research and development departments as well as related institution should be encouraged with the aim of enhancing on-farm irrigation efficiencies
- Surplus surface water during the wet season shall be provided to farmers through the irrigation networks free of charge to leach soils especially those farms that are irrigated with treated wastewater in the dry season.
- Drainage networks shall be installed in irrigated areas where natural drainage is not sufficient to serve the purpose.
- Maximum use shall be made of rainfall for crop production, and supplementary irrigation shall be employed to maximize production including increasing cropping intensities.
- The use of brackish water in irrigation shall be pursued with care. Soil salinity shall be monitored and its buildup shall be managed and mitigated.

- Land shall be managed with the attention it deserves as a non-renewable resource.
- Crop water requirements in the various micro-climatic zones of the country shall be experimentally determined taking into consideration the prevailing different water qualities.
- Automation of on farm irrigation networks and their operation will be encouraged and training of farmers on advanced water management techniques shall be sought.
- Irrigation water quality shall be monitored through sampling at the sources and from the conveyance and distribution network.
- Where marginal quality water, such as treated wastewater effluent, is a source of irrigation water, care should be taken, to the maximum extent possible, to have the quality improved to standards that allow its use for unrestricted irrigation.
- Soil salinity and water chemical contents are also constraining factors. Care shall be taken in providing testing services to farmers.

The water utility policy encourages government to transfer infrastructure and services from the public to the private sector in order to improve the performance and efficiency. The use of management contracts and other private sector participation in water utilities was introduced in this policy. Recovery of capital costs, and BOT systems became part of all water management policies. The MWI then introduced different prices for different qualities and uses of water. Profitable markets (tourism, industry) shall pay the full water cost. The water policy states that existing water distribution systems should be rehabilitated and enhanced.

Wastewater management policy

The Wastewater Management Policy (MWI, 1998c) was approved by the Council of Ministers in 1998. The policy considered reclaimed wastewater in a significant part of the country water resources at the present and in the future. The policy addresses the management of wastewaters including development, management, collection and treatment, reuse, and standards and regulations. Specific policy statements address:

- 1. Resource Development** by considering wastewater is an integral part of renewable water resources; treatment targeted toward producing effluent fit for reuse in irrigation.

2. **Resource Management** by basin management approach, as possible; irrigation use has highest priority; industries encouraged to recycle part of wastewater.
3. **Wastewater Collection and Treatment:** existing level of services to be sustained and promoted; treatment so effluent meets WHO and FAO. Guidelines; advanced wastewater treatment technologies promoted.
4. **Reuse of Treated Effluent and Sludge:** priority to agricultural use for unrestricted irrigation; blending of treated wastewater with fresh water to improve quality, where possible; treated effluent quality should be monitored; potential storage of excess treated wastewater in reservoirs or ground water aquifers should be studied.
5. **Pricing:** fees shall cover at least operation and maintenance costs; treated effluent should be priced and sold to cover delivery costs.

5- Agricultural Policies

After the economic depression in the 1980s and the resulting 1988 economic crises, the government of Jordan took strong measures by implementing a long-term structural adjustment program. As a result, several substantial and far-reaching changes in the overall economic and sectoral policies have been made. Since the agricultural sector was the largest contributors to the government's subsidy expenditure, therefore, it was among the first sector for reform in the early 1990s. There was an urgent need to formulate a comprehensive agricultural policy that would be an integral part of the overall policies for the economical development especially in rural areas. The agricultural policy, which was approved by the government in 1996, became an integral part of the comprehensive social and economic policy of Jordan. Considering efficiency, sustainability and equity; the objectives of the agricultural policy are:

- To increase the degree of Jordan's self-reliance in food.
- To manage and utilize the available agricultural production inputs, in particular; water, land, capital and labor, in an economically efficient manner, while preserving the environment and ensuring the sustainability of agricultural production in the long-term.
- To increase the profitability of the agricultural sectors as well as standards of living for farmers and agricultural workers.

- To orient the production of food and other agricultural commodities to meet demand of the domestic, regional and international markets and to ensure that such production is competitive in quality and price.
- To maximize the value added to the gross domestic product (GDP) of Jordan's agriculture sector, particularly that of agribusiness.
- To promote the export of agricultural and livestock products, and help improve the national balance of trade.
- To attain social and economic equity between the agricultural and other sectors of economy and also within the various parts of the agricultural sector itself.
- To achieve integration of agribusiness among Arab countries, and promote cooperation between countries of the region in the area of production and trade of food and agricultural commodities, ensuring balanced to all countries concerned.

The Government is determined to achieve the above-mentioned objectives by putting in place adequate economic, legislative and institutional framework to support rural change and transformation in the agricultural sector and to enable the sector to cope with the challenges and problems facing development. The following principles and general approaches are intended to provide the appropriate environment that will enable the sector to grow:

- Creating a favorable environment to ensure a freely functioning marketplace including the necessary regulatory and monitoring framework, while encouraging private agribusiness to play a major role in agricultural development.
- Strengthening the implementation of government policies supporting agricultural production and rural development, and making the necessary policy adjustments whenever needed.
- Providing the necessary institutional support and services in areas where the private sector is unable to provide them, including the infrastructure needed for sustained agricultural development, as well as information and other basic services.
- Encouraging the effective participation of individuals and target groups in agricultural policy formulation and in decision-making

processes, and also ensuring their participation in the implementation of various programs and activities.

- Integrating agricultural policy into, and ensuring that it is in line with other general and specific government policies.
- Defining agricultural development as the core of the integrated development of Jordan's rural areas.

5- National Strategy for Agricultural Development:

The National Strategy for Agricultural Development (NSAD) was prepared by the Consultative Economic Council, 2002 for the decade 2000-2010. The strategy stressed on sustainable agriculture and protection of natural resources. The strategic and operational programmes were comprehensive and covered most issues of biodiversity conservation and sustainable use in addition to combating desertification.

The NSAD identified certain environmental added values and benefits that could be achieved through its implementation and considering of following actions:

- Conservation of land, water and natural vegetation, through the sustainable utilization that ensures long-term agricultural production.
- Conservation of Jordan's biodiversity in parallel to sustainable agricultural development.
- Improvement of the technical and managerial capabilities of the agricultural sector to cope with probable climate and environmental changes, and absorb their consequences.
- Halting unplanned expansion of urban areas on agricultural land that are violating current legislation of prohibiting building on agricultural land, through denial of services to these buildings.
- Combating desertification and protecting the environment, the agro-biodiversity and agricultural

resources, to secure requirements for sustained development.

- Conservation of agricultural land by controlling soil erosion in steep mountainous areas, through improved agricultural practices and water conservation measures.

The NSAD have suggested the following activities, projects and action plans in different sub- sectors as follows:

Rain fed Agriculture

1. Protect agricultural resources and improve their present use for sustained productivity.
2. Increase rain fed cropped area by exploiting neglected areas and reclaiming new land.
3. Protect the environment and the agro-biodiversity and improve the quality of agricultural produce.
4. Increase the efficiency of rain-fed agriculture, maximize its economic returns, and increase its contribution to overall agricultural development.
5. Encourage crop diversification by introducing high-value cash crops and maximizing integration of plant and livestock production.
6. Create job opportunities for rural populations, specifically women, to reduce unemployment and limit rural migration.
7. Reduce the risk facing rain-fed agriculture and its resources.

Livestock and Rangeland

1. Protect natural rangelands, organize grazing, and increase the productive capacity of rangeland resources.
2. Define land uses according to productive capacity, giving priority to the development of areas that have high potential of incorporating water-conservation and management measures as an integral component of rangeland development.
3. Develop rangeland on the basis of integrated management approach and local community participation.
4. Conserve agro-biodiversity and use it for rangeland development and expand the establishment of natural and rangeland reserves.

5. Develop agricultural farming systems that integrate water-harvesting techniques in the development of rangeland.
6. Monitor environmental changes and combat desertification.
7. Increase animal feed production, improve its quality and introduce new feed resources.
8. Promote small family livestock projects.
9. Support livestock breeders' organizations and encourage the establishment of councils or specialized associations for production and marketing of produce and providing support services.
10. Support integration between plant and livestock production.

Irrigated Agriculture in the Jordan Valley:

1. Ensure the sustainability of irrigated agriculture in the Jordan Valley.
2. Protect irrigation water resources from pollution, salinity to allow its continuous use for unrestricted agriculture.
3. Improve the efficiency of irrigation and promote good water management in the Valley.
4. Maximize the socio-economic returns of the agricultural resources, taking into consideration the environmental dimensions.
5. Conserve land resources and protect them from pollution.
6. Define Government role in the agricultural development of the Valley.
7. Intensify cooperation with neighboring countries regarding water resources, water quality and the protection of the environment in the Valley.
8. Maintain agricultural land productivity and protect it from all forms of deterioration.
9. Reduce the risks facing sustained agriculture in the Valley.

Irrigated Agriculture in the Highlands

1. Ensure the sustainability of irrigated agriculture in the Highlands while considering the limitation of available water resources.
2. Protect irrigation water resources from pollution and salinization and provide it in a quality that allows continuation of its use in unrestricted agriculture.
3. Maximize the economic and social returns of water resources used in irrigation.

4. Organize production to meet market demand, and maximize the competitiveness of Highland products in the export markets.
5. Encourage the establishment of farmer associations to assist in organizing, developing and marketing of production
6. Provide fair and efficient marketing systems and channels for producers.
7. Enhance the productivity of land resources and protect them from deterioration and pollution.
8. Improve the quality of agricultural produce.
9. Introduce and apply environment friendly production systems when using treated wastewater in agriculture.
10. Develop agricultural production systems that enhance the efficiency of surface water use.
11. Reduce the risks facing sustained irrigated agriculture in the Highlands.

6- Poverty Reduction Strategy:

The National Poverty Reduction Strategy was launched in 2002, aiming at improving living standards of all poor segments of the society.

The strategy to alleviate poverty includes short, medium, and long-term initiatives in each policy area. Policy objectives include social safety, employment, education, and healthcare; within these areas, policy objectives include improving the social safety-net for the poorest of the poor, improving employment opportunities for those capable of working, providing access to education, and assuring access to healthcare.

The strategy recommends comprehensive measures to reduce poverty and to build on current experiences by addressing issues of health, environment, education, sustainable micro-finance, improving economic security of low-income working families, and increasing employment opportunities in rural areas and secondary towns.

It limits its scope to poverty alleviation and does not attempt to build a comprehensive social policy. However, the strategy does not address issues such as the role of women, domestic violence, child protection, etc. Conversely, there are other actions that will expand economic opportunities and result in a trickle-down effect on poverty alleviation such as tourism,

structural adjustments, access to markets and infrastructure development, which are core of other specialized strategies.

The Poverty reduction strategy does not reflect a deep and clear understanding and appreciation of the "sustainable livelihoods" concept and the linkages between poverty eradication and natural resources management. This is a major gap in developing the poverty reduction strategy. However, the Jordan 2nd National Human Development Report 2004 was based on the concept of sustainable livelihoods.

7- National Biodiversity Strategy and Action Plan:

The Jordanian National Biodiversity Strategy and Action Plan (NBSAP) has been formulated as a response to the obligations of CBD and has been developed as a guide to the implementation of the biodiversity convention in the country. The NBSAP has been published by the Ministry of Environment in 2002 based on a national consultation process.

The main strategic goals of the NBSAP are:

1. Conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments; and productivity of environmental systems, especially wildlife habitat, forests, grazing land and agricultural land within a balanced environmental order.
2. Improve the understanding of ecosystems, increase resource management capability, and promote an understanding of the need to conserve biodiversity by using biological resources in a sustainable manner.
3. Manage natural resources and distribute roles among institutions in a way that conserves the basic natural resources which are necessary for human growth and survival, such as soil, water, plant cover and climate, developing these elements and using them appropriately in a sustainable manner.
4. Maintain or develop incentives and legislation that support the conservation of biodiversity and the sustainable use of biological resources; and

5. Work with other countries to conserve biodiversity, use biological resources in a sustainable manner and share equitably the benefits that arise from the utilization of genetic resources.

Several projects have been proposed under the following five themes:

1. Protection of Biological Resources.
2. Sustainable use of biological resources.
3. Reducing the impact of mining on biodiversity.
4. Promoting integrated land use planning and water resources development within the existing land tenure system.
5. working towards a biodiversity-oriented society.

8- National Tourism Strategy:

The Ministry of Tourism has developed the National Tourism Strategy for the period 2004-2010 with a private-sector led perspective on placing tourism as a major income-generating and revenue based sector. The tourism strategy states a mission that "Jordan will develop a sustainable tourism economy through a partnership of government, the private sector and civil society to expand employment, entrepreneurial opportunity, social benefits, industry profits and state revenue".

This strategy is based on private sector investments in promoting national tourism, and does include ecotourism sites as "assets" for national tourism. The strategy does not take into consideration some basic "sustainable tourism" including carrying capacity, conservation and sustainable use of natural resources, and developing guidelines for management of natural heritage sites and ecotourism locations. . A considerable number of the potential sites are located within the arid margins and the desertified zone in Jordan

The strategy states that tourism development in Jordan will be sustainable and characterized by:

1. Preserving the environment and adopting ecologically sound policies.
2. Respecting the lifestyles and cultures of the people and communities.
3. Balancing the principles of profits with the need for socially responsible business practices.

4. Adhering to the global code of ethics for tourism as advocated by the World Tourism Organization (WTO)

5. Targeting the citizens and communities of Jordan as the primary beneficiaries of tourism.

9- National Youth Strategy:

The National Youth Strategy was supported technically and financially by the UNDP and prepared by the higher council of youth. It has included nine specific themes including one theme on "youth and environment".

The youth and environment theme includes three major strategic objectives broken down into fourteen practical measures. The major strategic objectives are:

- ▶ Enhancing environmental knowledge between youth and its accessibility according to the educational needs and interests with special focus on early stages of education.
- ▶ Increasing the impact of youth in developing and implementing national environmental policies and programmes.
- ▶ Maximizing the role of youth in sustainable use of environmental resources for socio-economic development.

Some of the main practical measures that are related to environment are:

- 1- Integrating environmental concepts in all educational curricula and extra-curricular educational activities for all stages.
- 2- Gaining benefit from national, regional and global experiences in environmental education and youth involvement in environmental protection with special focus on civil society.
- 3- Utilizing various media and outreach means to promote national environmental priorities and increasing the role of youth in environmental awareness.
- 4- Adopting a national youth programme focusing on integrating environmental concepts in national socio-economic development initiatives.
- 5- Increasing the role of youth institutions in environmental activities.

10- National Population Strategy:

The National Population Strategy was prepared and launched in 2002 and it included seven strategic sections with one section focused on "Population, the environment and natural resources".

The main objectives stated under this section are:

- Reducing the imbalance between water supply and demand.
- Reducing the imbalance between the local demand for and the local supply of food products.
- Increasing the level of efficiency in the utilization of local energy resources.
- Achieving a better balance between the population size and environmental conditions, where the population in the arid zone is characterized by a high birth rate.
- Achieving a better balance in the geographical distribution of the population between urban and rural areas.

11- National Energy Strategy:

The strategy focused on the development of renewable and sustainable energy sources and linkages between environmental protection and transition to sustainable energy. The strategy did not include issues of climate change and the opportunities for both environmental protection and sustainable energy through the Kyoto protocol, but the strategy is considered to be a suitable planning road map for sustainable energy production and consumption. The strategy identified a target of 2% contribution of renewable energy of the total energy mix in Jordan and increasing the share of renewable energy in electricity to 8%.

12- The National Agenda:

The National Agenda was prepared in 2005 and launched in 2006 comprising a comprehensive political and socio-economic reform plan for the country until 2017. The National Agenda was based on extensive research and integrated inputs from key players and organizations from within and outside the government. The main goal of the National Agenda is to achieve consistent policies and ensure that they will not be subject to government change while taking into considerations the need to regularly develop and update these policies.

The National Agenda contained a special section on environmental

sustainability including the arid and desertified zones. This section focused on six issues including desertification and sustainable land management.

The National Agenda policy and practical measures include the following actions in sustainable land management and desertification:

- ▶ Survey and define criteria for desertification hazards and thus map areas accordingly
- ▶ Establish a desertification monitoring system and use it efficiently
- ▶ Conducting socio-economic surveys in drought threatened areas.
- ▶ Establish other alternative livelihood measures that could provide incomes in drought prone areas and arid zones.
- ▶ Documenting traditional knowledge on soil protection measures and combating desertification

13 -National Capacity Self Assessment for Global Environmental Management (NCSA) Action Plan:

The National Capacity Self Assessment for Global Environmental Management (NCSA) was developed within the framework of the GEF initiative to assess the capacity constraints and potentials for implementing the three International Environmental Conventions on Biodiversity, Climate Change and Desertification. The NCSA aims at providing analysis of the priority capacity constraints facing Jordan while it strives to implement the three Rio Conventions on Biodiversity, Climate Change and Desertification. It also includes suggested strategic programmes and actions evolving from the analysis of national capacity constraints. The NCSA action plan was finalized in the end of 2006 and is currently under print. The action plan for national capacity building is based on synergies between the three Rio conventions. The NCSA action plan is composed of six programmes representing the six cross-cutting strategic capacity constraints:

- 1- Programme One: Knowledge Management, Outreach and Networking
- 2- Programme Two: Technical Training and Technology Transfer
- 3- Programme Three: Developing and Maintaining a National Coordination Mechanism.
- 4- Program Four: Using Research for Policy Making
- 5- Programme five: Resource Mobilization
- 6- Programme six: Local Community Empowerment

A total of 20 suggested projects were developed and described by implementation mechanism, objectives, activities and outcomes within the six programmes. The suggested projects related to desertification, based on programmes are:

Project 1.1 Development of an integrated knowledge management system for the three Rio Conventions

Project 1.2 Development of a comprehensive outreach and networking programme for the three Rio conventions at national, regional and global levels

Project 1.3 Developing an integrated public awareness and education programme

Project 2.1 Preparations of a technology needs assessments in the themes of Biodiversity, Climate Change and Desertification

Project 2.3 Developing and implementing a comprehensive training programme on priority technical concepts of the three conventions

Project 3.1 Development of a sustainable coordination mechanism between institutions implementing the three conventions

Project 4.1 Developing technical directives for Biodiversity and Desertification and rehabilitation of degraded lands in the national EIA process

Project 4.4 Developing national assessments for adaptation measures to climate change for biodiversity and desertification sectors

Project 5.1 Development of market-based economic tools for environmental management in the themes of biodiversity, desertification and climate change

Project 6.1 Development and implementation of a comprehensive capacity building and innovation programme for community management of natural resources based on traditional knowledge.

14. The National Strategy and Action Plan to Combat Desertification (NAP)

The NAP was finalized and Launched in June, 2006. The NAP could be considered harmonious with the other major development plans. This is due to the fact that NAP development was done in a participatory process including concerned stakeholders who usually participate in the development of other national plans.

Although the NAP is still a new document that requires effective awareness programme and a resource mobilization strategy, it can be considered as a framework for action at the country level .Precise reference was made to it in the National Agenda.

The NAP includes six major programmes that are mainly “project-based”. However, these programmes and the proposed projects provide framework for an action plan to combat desertification .Each programme has several projects with justification, activity, implementing agencies and initial budget. The proposed programmes are:

1. Desertification Information System (DIS),
2. Drought prediction and Desertification control,
3. Capacity building and institutional development,
4. Restoration of degraded ecosystems of rangelands and forests,
5. Watershed management,
6. Human, social and economic development initiatives.

15. National Strategy and Action Plan for drought mitigation

The Ministry of Agriculture in cooperation with Food and Agricultural Organization of the United Nations (FAO) implemented a project entitled “The **drought mitigation strategy in Jordan** “this project ended mid of 2007.

A national Strategy and action plan for drought management has been prepared and final recommendations and conclusions were discussed in a national workshop held for this purpose. These included:

- 1- Establishing a high committee headed by the Prime Minister and membership of the following institutions:
Ministry of Agriculture (MOA) , Ministry of Environment (MOE)
Ministry of Interior (MOI), Ministry of planning and International cooperation (MOPIC), Ministry of Water and irrigation (MOW&I),
Royal Jordanian Geographical Center (RJGC), Meteorological Department, Research Centers, Governmental and non-governmental organizations (NGOs).
- 2- Formulation of the following sub-committees: _ technical, follow-up and evaluation of risk committees with membership of the mentioned institutions to supervise what ever effects drought occurrence, establishing standards for declaring drought and writing reports for the high committee.
- 3- For the sustainability of the work; training programs on drought issues is vital with an independent budget. Also training of the local communities to involve them in decision-making and drought mitigation.
- 4- Importance of Signing MOU within different institutions so as to clear duties and responsibilities of each party.
- 5- Training of Trainers (TOT) so as to clear the concepts and the vision on drought issues.

• Inter-ministerial/institutional coordination mechanism for anti-desertification programmes.

During the recently concluded project entitled " the National Capacity Self Assessment (NCSA) for the three Rio Conventions", duplication and absence of roles and responsibilities of organizations working in land degradation was identified as one of the capacity constraint facing the proper implementation of the UNCCD. The efforts of land management and combating desertification are scattered among many institutions. Hence, the following activities were recommended: development of a harmonized and coordinated mechanism to combat desertification, definition of roles of institutions, training of the staff of concerned institutions

A National Committee for Combating Desertification (NCCD) was established pursuant to a council of ministers decree in 1996. It comprises several governmental institutions and NGOs .Currently the MOE is working

on drafting a by-law on Nature Protection. The by-law is expected to contain special articles on desertification together with article to legalize establishment of the NCCD with special responsibilities assigned to it. However, the NCCD still inactive in performing its duties due to recent restructuring of the MOE which entailed relocation of MOE's staff. The situation is expected to improve shortly as the desertification related issues are getting additional priority by the decision makers at the MOE and at the national level.

- **Improved use of and local access to climate and weather information, forecasts, early warning and information networking to combat desertification.**

The public has access to information related to climate and weather information. These information are available through different mass media and Department of Meteorology web site (www.jometeo.gov.jo). With regard to early warning and information networking to combat desertification, still this is not yet done but was recognized in the NAP as one of the programs suggested for implementation under the program entitled **Desertification Information System (DIS)**.

- **Comprehensive database development on desertification, land degradation and human condition, incorporating physical and socio-economic parameters.**

Many databases are maintained by several governmental institutions and projects that are quite relevant to desertification. Among these databases are:

1. The Soil Survey and Land Classification project has database and GIS on soil as well as soil, topographic and geological maps. The Directorate of Land and Irrigation /MOA is using GIS and database management system with respect to land capacity, use and cover.

2. The Royal Society for Nature Conservation has a database of wildlife and vegetation and is presently utilizing GIS to process it. The MOE has allocated financial allocation in its 2007 budget for upgrading this data base.
3. The Faculty of Agriculture, University of Jordan has a database on soil maps, land use in some parts of the Kingdom. The Faculty has also an extensive database relevant to the Steppes zone, which suffers from higher rate of desertification. The database serves as a guide for optimal use of land in areas suffering from desertification, and as a base for desertification monitoring.
4. The Jordan Badia Research and Development Centre (BRDC) has a comprehensive digital data base for the arid and desertified zones in Jordan, purpose built for research and development activities. The BRDC being a government agency responsible for desert research in Jordan can play a major role in this activity.

These fragmented efforts, in addition to what is available at the National Information Center, are a valuable asset in the national efforts to combat desertification, if are coordinated and effectively linked to establish a national desertification information system could be one of the programmes suggested by the NAP.

In spite of the existence of several institutions with programmes and activities related to combating desertification, they are constrained by shortage of qualified and experienced staff in areas of desertification, environmental planning, natural resources sciences and range management, as well as the lack of adequate financial resources. The availability of adequate well-trained human resources is required to put development and desertification related activities in the right direction and to ultimately lead to sustainability and environmental conservation. This situation highlights and emphasizes the need to give more attention to capacity building and upgrading the institutional set-up for combating desertification. Training and enhancing the capabilities of the involved national cadre within MOE, other institutions, and NGOs is considered as priority.

• Research and dissemination on ways of reducing water loss from soils, on increasing the water absorption capacities of soils and on water harvesting technologies in desertification affected areas.

Jordan is among the poorest countries in the world in terms of water scarcity. Hence; many institutions are interested in rational management of water.

The Jordan Valley Authority (JVA) is one of national institutions that have taken actions in this regard. Following are the main actions performed by JVA in accordance with the water sector strategy, the irrigation policy and JVA strategic plan to deal with the situation:

- The conversion of surface irrigation channels to pressurized pipe networks. Each farm unit was equipped with a Farm Turnout Assembly (FTA) including a pressure regulator and a flow-limiting device that limits the flow to 6-9 liters/second. It should be noted that the flow at the farm gate was 20 liters/second when the open channels networks were used before the conversion into pressurized systems.

- A computerized Water Management Information System (WMIS) was introduced to help in making decisions to balance water resources and demands and to optimize water distribution to farm units. The system allows for calculation of seasonal, monthly and daily water balances, and in setting reservoirs target volumes and operational efficiencies of the different sections of the hydraulic network.

- Pilot projects are being implemented with the help of donors to illustrate how to optimize water use inside the farm units by the use of tensio-meters to help identify the exact time of irrigation according to crops needs. An irrigation Advisory Service (IAS) was also instituted to help farmers use these devices and schedule their irrigation frequency. Universities, research centers and Non Governmental Organizations (NGO's) are involved in the activities at the pilot areas.

- Farmers are also encouraged to change their irrigation systems at the farm unit level from surface to micro-irrigation (drip and mini sprinklers), and to introduce advanced technologies to maximize irrigation water use efficiency.

- Farmers are encouraged to form water-user groups of different forms (water committees, local water councils and water user associations) according to geographic zones and social nature. Around 40% of the Jordan Valley farmers participate in one way or another in these groups at 16 different locations along the Valley. The main function of these groups is the participation in irrigation water distribution activities. Farmers now open and close their Farm Turnout Assemblies according to the pre-defined

irrigation schedule, thereby alleviating this burden from JVA. This self controlled water distribution process led to a significant reduction in water losses and illegal water use.

-Guidelines were issued to help farmers in using the best practices to irrigate certain salt tolerant crops with brackish water (slightly saline), which is available mostly in the shallow aquifer north of the Dead Sea. The brackish water is used directly to irrigate salt tolerant crops or it can be blended with fresh water, or even desalinated water by small Reverse Osmosis (RO) units by some farmers (23 private desalination units were already installed in the Jordan Valley).

-Guidelines for the use of reclaimed water in an environmentally safe and economically viable manner were prepared by JVA to help farmers to apply the best practices in using the reclaimed water, which use is on the increase for irrigation in the JV due to the lack of fresh water and its diversion for municipal purposes. Programs are being conducted to monitor surface water, ground water soil and crops. The results of these monitoring programs are analyzed and used to take mitigation measures to remedy any negative effects from using reclaimed water.

-Licenses for planting banana and citrus trees are no longer issued to farmers, as these are high water consuming trees. Farmers with old licenses are given the water requirements when water is available, but in case of droughts a minimum amount of water is given to

-Construction of Al Wehda Dam at the Yarmouk River is being finalized to store the floods and to regulate the base flow of the river, which will add additional 30 million cubic meters (MCM) of water per year for agricultural use in the Jordan Valley area.

-Additional storage dams are being planned to alleviate the chronic need for water, mainly Kufrenja dam (9 MCM), Ibn Hammad dam (5 MCM), Wadi Karak dam (2.1 MCM), Whaideh dam (1.8 MCM), and other desert dams, lagoons and ponds through the water harvesting program.

-Effluent of the newly rehabilitated As Samra Water Treatment Plant (97 MCM capacity) is being mixed with surface water for reuse to irrigate suitable crops in the middle Jordan Valley.

-A national committee was formed from different stakeholders for water harvesting. The committee is focusing on identifying suitable areas to conduct water harvesting activities. However, financial constrains remain among the main obstacles facing implementation of water harvesting activities.

• **Desertification and land degradation impact assessment.**

Most of Jordan arid and semi-arid areas has suffered desertification. Although the rate of desertification was not identified, however several surveys and studies at the country's level indicated that Jordan's land is at the threat of high rate of desertification. The process has been accelerated by unsupervised management and land use practices of overgrazing, cultivation and plowing of marginal soils and woodland removal in the high rainfall zones. The regions of irrigated highlands and the Jordan Valley were also affected by aspects of salinization and alkalinization of soil. In addition to human induced factors, climatic factors of irrational rainfall and periodic droughts are contributing to the problem. According to Al-Hadidi (1996), the transition zone (between arid areas in the east and sub-humid areas in the west) has suffered from a high risk of desertification and is expected to lose its productivity over time.

Status of desertification

Desertification status in Jordan was investigated and tackled by few studies at the country level. In terms of desertification status, the country can be divided into four major zones as following:

I – Zone 1:

Includes the bioclimatic subdivisions of 7, 8 and 9 (Figure below) and mainly restricted to the Saharo-Arabian and Sudanian Penetration areas. Land regions 2, 5, 6, 7, 12, 13, 16, 17 and eastern parts of 14 are entirely within this zone. The area witnessed high rates of desertification and reached an advanced stage of desertification and can be considered as highly

desertified area. Aspects of desertification in this zone are the absence of vegetation cover, the dominant desert pavements, the high salt contents and dominance of gypsiorthids soils. The desertification process within this zone is also accelerated by the low annual rainfall (<100 mm). At the eastern borders with Saudi Arabia, large areas are covered by sand dunes, particularly areas of Wadi Rum, Ghadeer al-Sheikh, Bayer and Mudawwara. The rest of the area is covered with desert pavement almost with no visible plant cover. Some plant species, however, can be found inside waterways.

II- Zone 2:

Most of this zone is Steppe and located within the Irano-Turanian climate. The area includes bioclimatic subdivisions 2, 3, 4 and 5 and land regions 11 and 15. The area is considered as a transitional zone of the Badia. A previous project (JAZPP, 2000) indicated that the intensive agricultural activity of barley cultivation and irrigation is taking place in the area. The dominant aspects of desertification in this zone are the higher rates of erosion by wind and water, the substantial accumulation of calcareous silt on the soil surface, low germination rate of plants, low intensity of plant cover caused by overgrazing and poor rainfall distribution. The area is also affected by soil surface crust that accelerates erosion by water and a soil compaction problem caused by uncontrolled movement and travel of grazing herds and vehicles. Many parts of this zone, however, have a high resilience; indicated by the high recovery and productivity of the protected natural vegetation inside natural and range reserves

III – Zone 3:

This zone falls completely within Mediterranean climate and includes semi-arid and dry sub-humid zones (climatic subdivisions 1, 2 and 3) and the land regions of 8, 9 and 18. Annual rainfall in this zone is relatively high and varies from 300 mm to more than 600 mm. Existing soils are believed to be developed under humid climate which indicates that this zone has passed through a physical environmental change. Nevertheless, anthropogenic factors of woodland cutting, urbanization and land fragmentation have accelerated desertification in this zone. Currently, observed aspects of desertification includes the recession of forest areas, high rate of water erosion by water, expansion of urbanized area in the high rainfall zone, reduction in soil organic matter and soil compaction and deterioration.

IV – Zone 4

This zone includes the irrigated area in Jordan Valley and extends from Tiberia Lake in the north to the Dead Sea in the south. The area is different from other zones in terms of climate, soils and land management. Irrigation is the dominant land use in this zone with surface water as the main source

of irrigation. Aspects of desertification in this zone are mainly the soil salinization caused by improper irrigation practices and fertilization and land abandonment in the southern areas resulted from deep plowing and mixing of underlying Marl with soil material.

Generally, the whole process of desertification in these zones is accelerated by the socio-economic factors of low income, inadequate inputs, improper management and overgrazing of natural vegetation.

Causes of desertification

Generally speaking, land mismanagement and climatic factors of drought and climate change are the main causes of desertification in Jordan. Several practices are aggravating degradation in the first and the second zones. The irrational plowing, the cultivation of land for barley, the mismanagement of plant residues and the overgrazing of natural vegetation are the main causes of desertification in these zones. Causes of desertification in the third zone include forest cutting, inappropriate land use, random urbanization, land fragmentation and over-pumping of groundwater. In the fourth zone, land degradation aspects and causes are mainly attributed to mismanagement of irrigated lands, particularly in the middle and southern parts of Jordan Valley. In addition to the above causes of desertification, a very important factor of desertification in the country is the high population growth which exerts more pressure on the natural resources to meet the demands of the increasingly growing population.

Following sections include further discussion and analysis of two important causes of desertification, namely irrational cultivation and overgrazing.

1.1.1 Irrational cultivation and irrigation

Extension of rainfed cultivation to the low rainfall zones to meet the increasing demand on food resulted in accelerated land degradation, as many of the barley-cultivated areas had low suitability to land utilization type.

Irrigated cultivation on the other hand had little significance until the beginning of the 1960's. The irrigated areas were scattered around the water sources and along the streams. The expansion of irrigated farming in the eastern parts of the country, where numerous irrigation projects have been initiated, resulted in putting more land under irrigation and the risk of salinization. Originally, these projects aimed to assist in settling the nomads and reduce the problem of food security. The increased investment in

irrigation project by private sector has resulted in intensive irrigation in the low rainfall zones. This has increased stress on water resources, especially in the Badia (arid eastern parts), and resulted in overexploitation of groundwater.

Thousands of tons of poisonous chemicals (pesticides) were believed to be used in agriculture since the early 1960's. The most prominent pesticides are DDT (used until 1960s), thallium (used largely, until the 1970s), fluoroacetamids, azodrin and other chemicals. The unsupervised use of pesticides and chemical fertilizers is certainly expected to result in polluting soils, water resources, aquatic fauna, vegetation, birds and mammals. Eventually, negative impacts on human health and environment are expected.

1.1.2 Overgrazing

All areas of Jordan named the Badia which receive less than 200 mm of rainfall per annum are officially designated as rangeland (pastureland).

Productivity of rangelands varies from one region to another.

Chronologically, interest in rangeland assessment, rehabilitation and development in Jordan was as early as 1950's (HTS, 1956). Many studies and research showed low levels of rangeland productivity that tend to decrease with time. This was mainly attributed to overgrazing of natural vegetation which accelerated degradation of rangelands in the low rainfall zones. At the same time, the number of grazing animals is constantly growing and results in more pressure on the limited resources of rangelands. Prolonged heavy grazing has changed rangeland quantitatively and qualitatively. Quantitatively, it results in fewer and smaller plants and low vegetative cover. Qualitatively, it results in a decrease in the most palatable and nutritious plants relative to unpalatable plants and those lacking nutrients.

According to Abu-Irmaileh (1994), productivity of the grazed semi-arid areas ranged from 11 % to 33 % of the amount of vegetation produced by adjacent protected areas. Hatough *et al.* (1986) found that grazing reduced productivity, cover and diversity of shrubs while protection resulted in a “highly productive growth of many palatable plants such as *Erucaria bovia* and species of *Avena*, *Lolium*, *Phalaris*, *Bromus*, *Stips*, *Salsola*, *Atriplex*, *Erodium* and others.”

In an attempt to support the above assumption for reduction in rangelands carrying capacity, number of livestock and subsequently the reduced

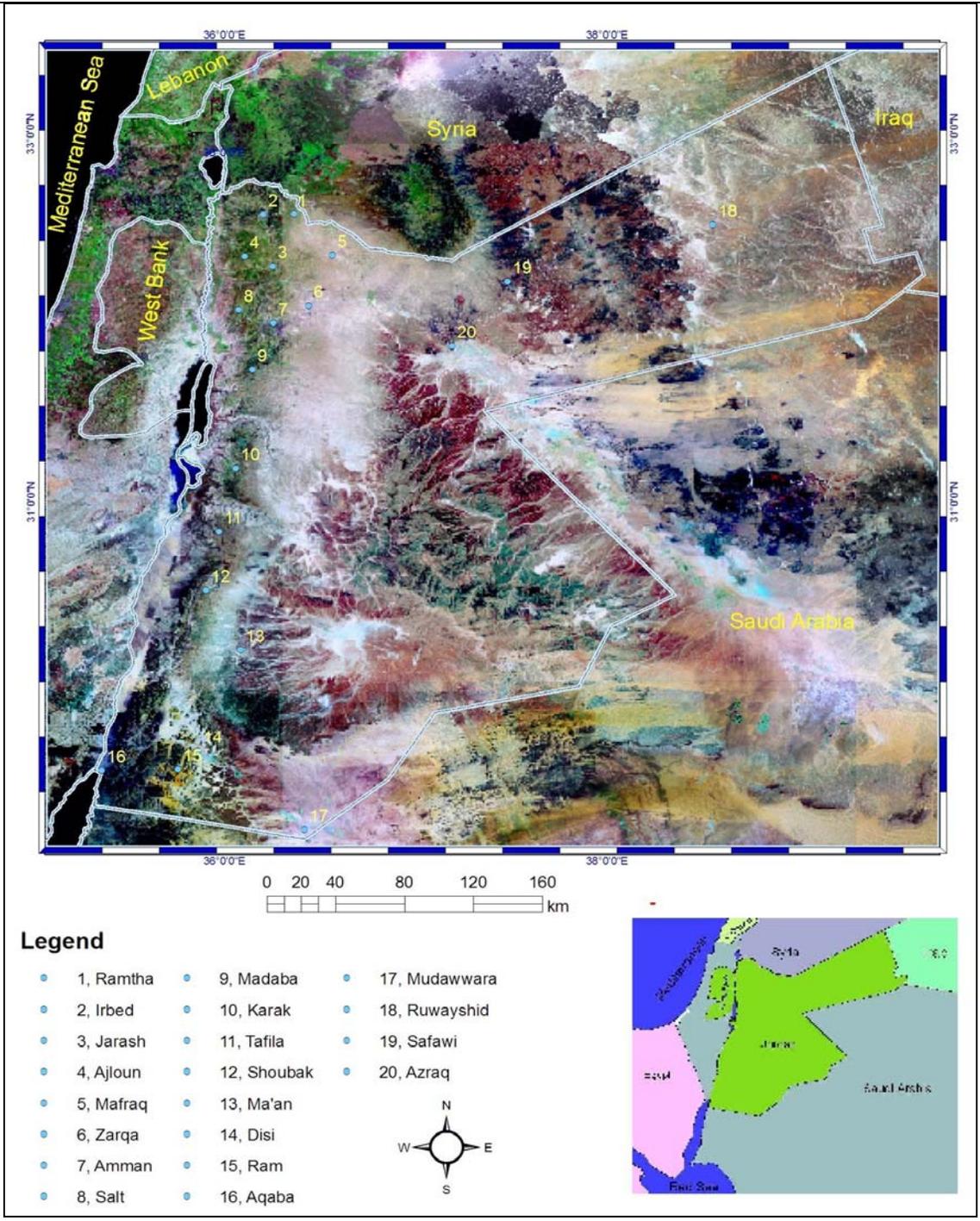
carrying capacity has been used to calculate the percentage of decreasing capacity and the cumulative decrease . A continuous decrease in capacity for the last 70 years is observed. According to these estimates the present carrying capacity of rangelands has been decreased by about 70% .

Deteriorating rangeland quality had its impact on wildlife in desert habitats.

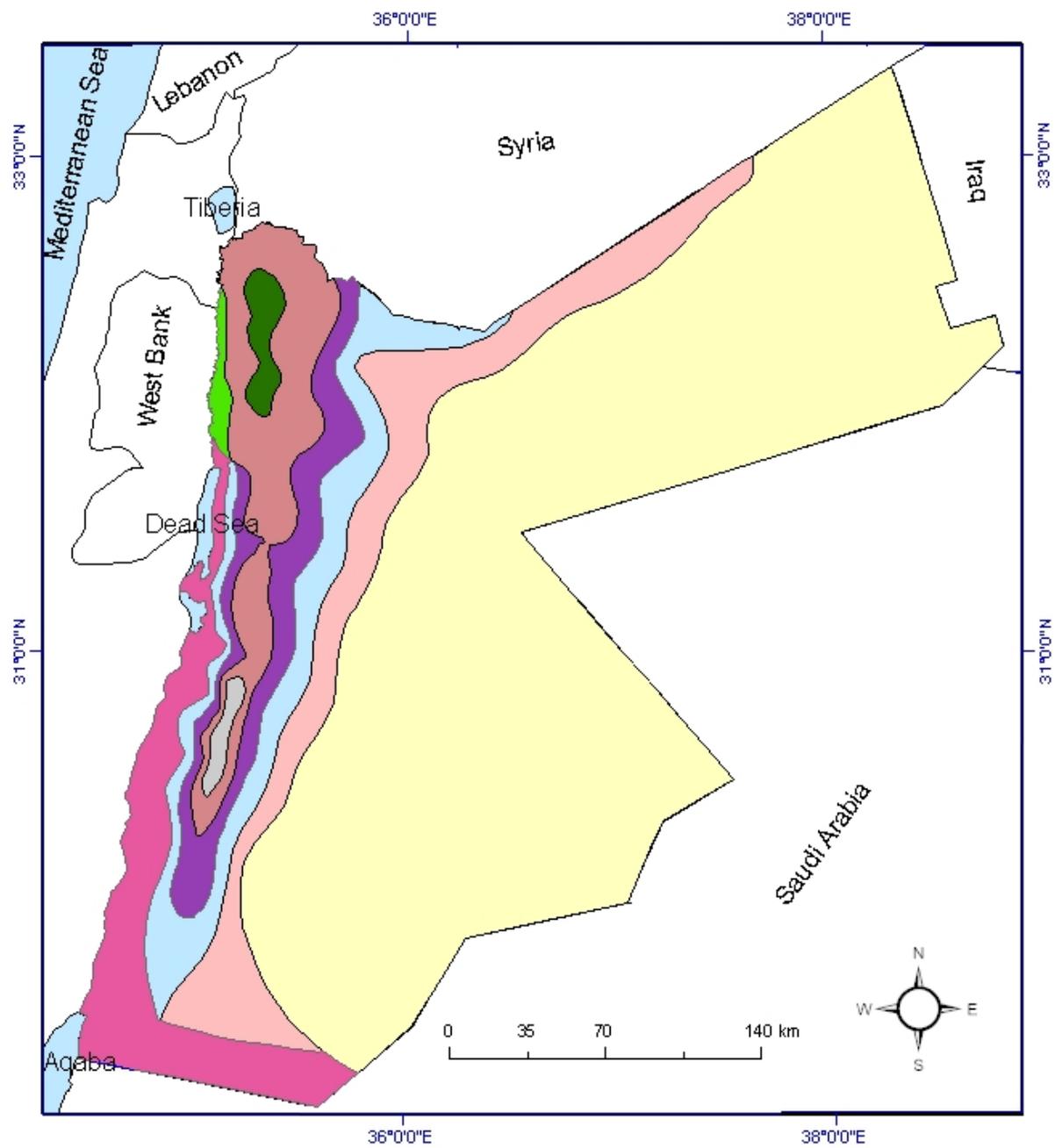
The damage occurred due to:

- Direct competition between sheep and goats with other herbivores (such as gazelles, seed-eating birds and rodents),
- Loss of food sources for herbivores,
- Loss of food sources for predators (the herbivores whose populations declined),
- Transmittal of diseases from domestic animals to wildlife,
- Loss of structural components of habitat (bushes and trees).

These structural and biological changes were supported by the large number of bird and plant species inside the natural reserves compared with the outside open rangeland.



Location of Jordan displayed onto Land sat ETM+ image.



Bioclimatic zone			
	Arid Mediterranean, cool		Semi-arid Mediterranean, warm
	Arid Mediterranean, warm		Saharan Mediterranean, cool
	Arid Mediterranean, very warm		Saharan Mediterranean, warm
			Semi-arid Mediterranean, cool
			Sub-humid Mediterranean, warm and cool

Land use in Special Areas

Jordan has a vast heritage, with rich environmental and cultural assets. These assets, however, have been under-protected in the past, with the lack of a clear conservation policy. These assets have also remained mismanaged economically, as Jordan has lacked a clear policy on how to leverage them for the economic benefit of local communities, while simultaneously preserving their heritage value.

To take one example, Jordan only has limited forest resources; with less than 1% of the country classified as forest. These forests face different threats, including woodcutting, over-grazing, quarrying, and expansion of agricultural. These sites have also been witness to an onslaught of development that must be regulated in order to conserve them for generations to come.

The past several years have seen an increase in construction, development activity, as well as tourism, in many of Jordan's environmentally and culturally sensitive areas. No comprehensive land-use policy and plan has yet been developed for these "Special Places" which has resulted in their sub-optimal use. In line with the Kingdom's economic development agenda it is now imperative that national policy be developed that will balance the protection and conservation of these areas with their economic potential by ensuring inoffensive and productive uses around the sites.

The National Special Places Initiative (NaSPI) is based on a request from the His Majesty King Abdullah Bin Al-Hussein to provide a clear mechanism to direct investment throughout Jordan in a manner that protects natural and cultural resources and preserves their aesthetic and historic value. The NaSPI will provide a framework and action plan, as well as a practical example, on how to preserve Jordan's environmental and cultural assets in a manner that also takes advantage of their economic potential.

The initiative is being directed by the Ministry of Environment as well as a National Steering Committee that includes representatives from many government and non-governmental agencies, as well as individual experts. The National Steering Committee shaped an overall vision for the NaSPI with Strategic Objectives and also proposed 'special place categories'

The Strategic Objectives for the initiative are as follows:

1. Develop a national system for identifying, categorizing and mapping the kingdom's most important areas and sites for its natural and cultural heritage.
2. Develop a conservation-oriented land-use classification system and related planning procedures for the identified key areas and sites.
3. Introduce economic development strategies within and around key areas and sites that engage local communities and help to maintain the cultural and social fabric of the protected landscapes.
4. Promote and publicize the new designations and procedures and institutionalize the lessons learned from the pilot trials in Ajloun within the national planning system.

An initial phase of the initiative which focused on stakeholder consultation and brainstorming was conducted by BearingPoint, in conjunction with the Ministry and the Steering Committee.

A charette, which is a design tool and planning process that involves intensive and carefully facilitated brainstorming sessions with relevant experts and key stakeholders was convened .

The main purpose of the NaSPI charette was to develop, within a very short period of time, the criteria and classification system as well as principles for the designation and use of Jordan's Special Places based on best international practices. The results of the charette will be used to guide the development and implementation of all the other components of the NaSPI. It will also incorporate key information and opinions gathered from a number of pre-charette activities including stakeholder consultation. The Ministry of Environment will develop in one year and in cooperation with concerned institutions a land use plan for the Special Areas.