



Vision of Hattin

Combating Desertification in Yemen

Working paper submitted to the conference
of the parties to combat desertification

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Desertification is not just the loss of land; it is the loss of life, hope, and the future. Let us protect our earth before it turns into a silent desert.





Introduction:

Desertification is one of the most prominent environmental and development challenges facing Yemen, as the country is characterized by dry and semi-dry climatic conditions that increase the fragility of the ecosystem. This problem is exacerbated by:

Climate change, Unsustainable human activities, Armed conflict threatens livelihoods, food security, and economic and social stability. Desertification in Yemen is a pivotal issue that requires a comprehensive and effective response to mitigate its multidimensional impacts.

First: The importance of the desertification issue in Yemen and its impact on society, the economy and the environment

1. Environmental importance

-Agricultural land degradation Yemen: relies heavily on agriculture as its primary means of food and income. An estimated 97% of agricultural land is degraded by desertification and drought, reducing crop productivity and increasing dependence on imports.

-Soil erosion: Devegetation and overgrazing accelerate the loss of fertile soil, threatening biodiversity and undermining the ability of ecosystems to recover.

-Water scarcity: Desertification reduces groundwater recharge, deepening the water scarcity crisis in Yemen, where per capita water availability is among the lowest in the world.

2. Social impacts

-Increased poverty and migration: The loss of arable land reduces employment opportunities, especially in rural areas where people depend on agriculture and herding. This forces people to migrate to cities or even abroad, creating additional pressure on urban resources and services.

-Food security threat: More than 17 million people in Yemen suffer from severe food insecurity, and desertification is a major factor exacerbating this crisis by reducing local agricultural production.

-Social Conflicts: Lack of resources such as arable land and water leads to conflicts between communities, increasing social tensions and reinforcing the cycle of violence and instability.

3. Economic impacts

Decrease in agricultural production: About 70% of the population depends on agriculture as their main source of income, and desertification reduces agricultural productivity, leading to huge economic losses. It is estimated that Yemen loses 3-5% of its GDP annually due to desertification.

Increase import costs: Degradation of agricultural land increases dependence on food imports, widening the trade deficit and putting pressure on the national currency.

Weakening rural infrastructure: Floods caused by drought erode roads and waterways, disrupting the movement of goods and services.

4. Global environmental impacts

-Climate change: Desertification releases large amounts of carbon as a result of the degradation of vegetation cover, contributing to climate change, a global challenge that affects everyone.

-Loss of biodiversity: Desertification threatens wildlife and plant life, contributing to the disappearance of unique and environmentally essential species.



Causes of worsening desertification in Yemen

- ✗ **Unsustainable agricultural practices:** such as overuse of groundwater and inefficient irrigation.
- ✗ **Population growth:** which increases pressure on natural resources.
- ✗ **Climate change:** Such as high temperatures and low rainfall.
- ✗ **Armed conflicts:** Which leads to population migration and destruction of environmental infrastructure.

Urgent need to address the issue

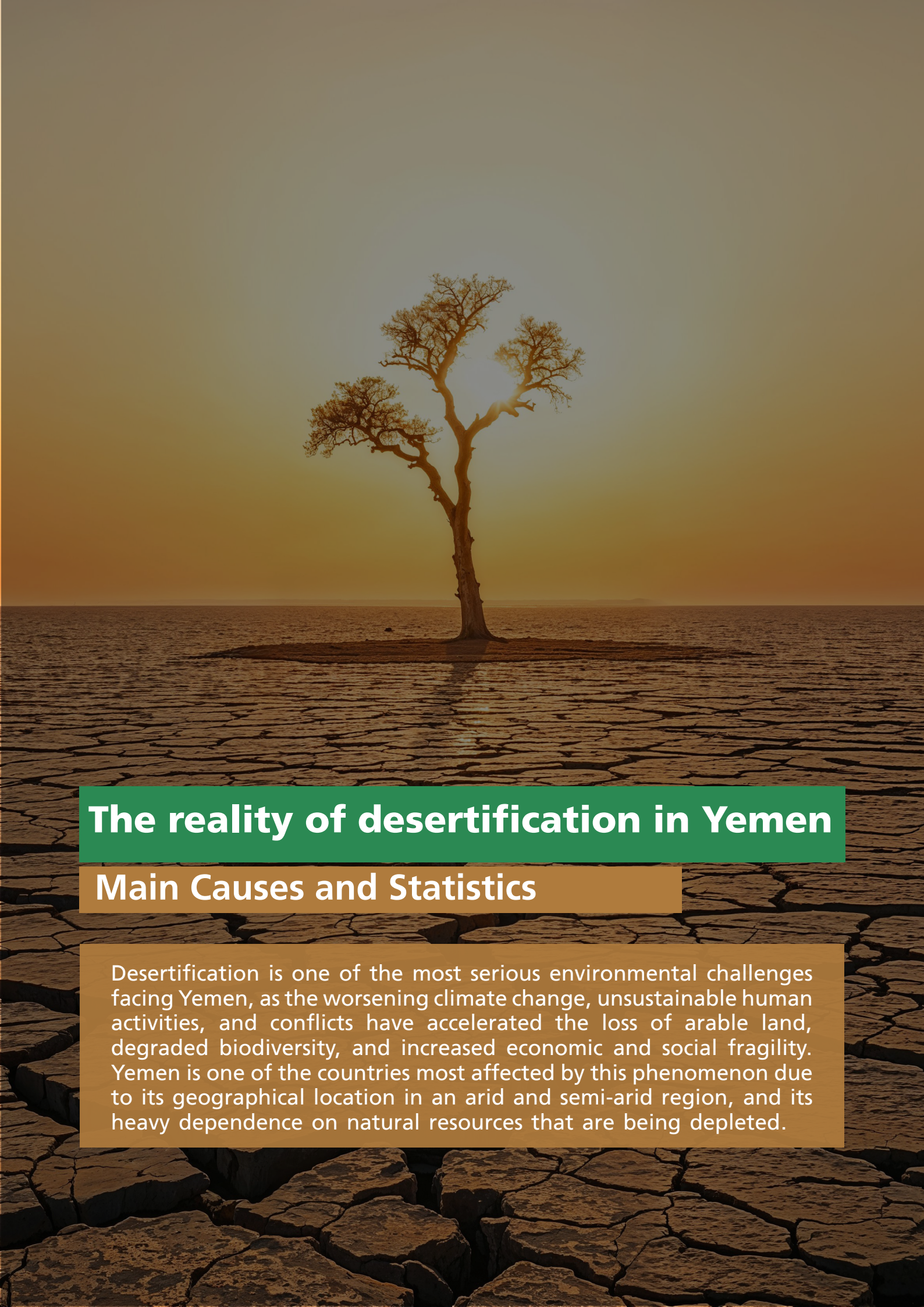
As desertification increases in severity and affects various aspects of life in Yemen, it has become necessary to adopt a comprehensive and sustainable approach that includes:

- ✓ **Land rehabilitation:** Through afforestation and the use of modern techniques to improve the soil.
- ✓ **Raising environmental awareness:** To enable local communities to adopt sustainable practices.
- ✓ **International cooperation:** To obtain technical and financial support for the implementation of desertification control projects.



Conclusion of this axis

Desertification represents a serious environmental, economic and social threat to Yemen, but it is also an opportunity to stimulate joint action and promote sustainable development. Addressing this issue is not an option, but a necessity to ensure a better and more stable future for the country and its people. Through strategic planning and implementation of sustainable interventions, the impact of desertification can be reduced and long-term benefits can be achieved.



The reality of desertification in Yemen

Main Causes and Statistics

Desertification is one of the most serious environmental challenges facing Yemen, as the worsening climate change, unsustainable human activities, and conflicts have accelerated the loss of arable land, degraded biodiversity, and increased economic and social fragility. Yemen is one of the countries most affected by this phenomenon due to its geographical location in an arid and semi-arid region, and its heavy dependence on natural resources that are being depleted.

Main causes of desertification in Yemen

1. Climate change

- High temperatures:** According to climate reports, temperatures in Yemen have risen by 0.8 degrees Celsius over the past 30 years. This increase increases evaporation rates and reduces water availability.
- Low rainfall:** Most areas have recorded a sharp decline in rainfall, leading to dry farmland. Mountainous areas that used to rely on monsoon rains are experiencing a change in rainfall patterns.
- Increased climate disasters:** such as frequent droughts and sandstorms, leading to soil degradation and loss of vegetation cover.

2. Poor land management

- Random urban expansion:** Population growth and rapid urbanization have led to the conversion of large agricultural areas to residential and industrial uses without planning, reducing productive land.
- Unsustainable irrigation:** Overuse of groundwater for crop irrigation has depleted water resources, dried up many wells, and increased soil salinity.
- Traditional agriculture:** The continued use of traditional and inefficient agricultural techniques has led to soil erosion and loss of fertility.

3. Overgrazing

- Increasing pressure on natural pastures:** The increase in animal numbers and the lack of regulation in the use of pastures have led to the removal of vegetation and the acceleration of desertification.
- Loss of plant diversity:** Overgrazing has led to the extinction of some native plant species that maintained the balance of the soil and ecosystem.

4. Wars and conflicts

- Ongoing armed conflict:** The war destroyed agricultural and environmental infrastructure, and led to the displacement of people from rural areas to cities, leaving the lands abandoned and unproductive.
- Overexploitation of resources:** Some groups have used land unsustainably for quick gains, exacerbating land degradation.
- Soil pollution:** Military activities such as bombing and the accumulation of waste resulting from conflicts have negatively affected soil quality.

5. Social and economic factors

-Poverty: More than 70% of the population depends on agriculture and pastoralism, yet the lack of sustainable resources and technologies puts pressure on agricultural land.

-Population increase: The population is growing at 3% per year, which has led to increasing pressure on natural resources and intensive and unregulated land use.

-Lack of awareness: Lack of adequate awareness programmes on the importance of land protection and how to use it sustainably.

Figures and statistics on desertification in Yemen

1. Spread of desertification

-Geographical scope: About 90% of Yemen's area is classified as arid and semi-arid areas, making it vulnerable to desertification.

Degraded lands: It is estimated that more than 50% of agricultural land in Yemen suffers from varying degrees of degradation, reducing its productivity.

Official data indicate that the area of decertified lands in Yemen amounts to about 405 thousand square kilometers, or 71.6% of the total area of decertified lands, while the area threatened by desertification reaches 15.9% of the total area of the country.

A report issued by the Yemeni Ministry of Agriculture indicates that Yemen's production of grain crops such as wheat, corn and barley has declined due to the war that has been going on since March 2015 to between 300 and 500 thousand tons compared to 2014, which was estimated at about 700 thousand tons..

The area planted with these crops also declined to 505 thousand hectares after it was 727 thousand hectares during the same year..

The agricultural sector contributes 25% of food consumption in Yemen and about 20% of the GDP, and employs 40.9% of the total workforce. According to official reports

-Most affected areas: Governorates such as Hadhramaut, Al Mahrah, Al Hudaydah, and Taiz are considered the most affected by land degradation.

2. Water resources

-Water scarcity: The per capita water share in Yemen is less than 100 cubic meters per year, which is about 2% of the global average. This rate is very low compared to the global water poverty line of 1000 cubic meters.

-Groundwater depletion: Some areas have recorded a decline in groundwater levels at a rate of 16- metres per year, as a result of overuse.

3. Impact on agricultural production

- Declining productivity:** Crop production has declined by 30% in the last decade due to soil degradation and reduced water availability.
- Food security:** About 17 million people, more than half of the country's population, are food insecure due to poor crop production.

4. Natural disasters associated with desertification

- Drought:** About 60% of rural areas suffer from recurrent drought, increasing the vulnerability of populations dependent on agriculture.
- Sandstorms:** Sandstorms have become more frequent and severe, affecting agricultural activities and water resources.



Conclusion of this section

Desertification in Yemen is a multidimensional crisis affecting the environment, economy, and society, exacerbated by climate change and mismanagement of resources. The figures and statistics presented highlight the seriousness of the situation and the need for comprehensive and sustainable responses. This data can contribute to building international and regional programs to support Yemen in combating desertification and achieving sustainable development.



A young boy in a blue shirt sits on a vast, cracked, and parched landscape, looking towards a small, reflective pool of water. The sky is filled with heavy, dark clouds, suggesting a storm or a gloomy future. In the background, there are some dilapidated structures and debris, indicating a state of ruin or displacement. The overall scene conveys a sense of despair and the harsh consequences of environmental degradation.

Negative effects of desertification in Yemen

Desertification is the process of land degradation in arid and semi-arid areas, and poses a serious threat to communities in Yemen, where a large part of the population depends on agriculture and pastoralism as their main sources of livelihood. As this phenomenon continues to expand due to natural and human factors, the negative impacts on various aspects of life are increasing, deepening environmental, economic, and social crises.

1. Impacts on agriculture

-Degradation of agricultural land:

Desertification reduces the area of arable land, with 50% of agricultural land in Yemen now degraded, limiting agricultural production.

-Low crop productivity:

Desertification reduces soil fertility, leading to a 30% decline in crop yields over the past decade. This problem severely affects major crops such as wheat and maize.

-Rising costs of agriculture:

Soil degradation increases farmers' reliance on fertilizers and pesticides to improve productivity, which increases costs and burdens farmers.

-Loss of grazing land:

Overgrazing resulting from desertification has reduced natural pastures, causing a decline in livestock productivity.

2. Impacts on food security

-Increased hunger rates:

More than 17 million people in Yemen are severely food insecure. Desertification is reducing crop yields and livestock production, widening the food gap.

-High dependence on imports:

With local production declining, Yemen relies on imports for 90% of its food needs, increasing costs and exposing the country to food crises linked to global market fluctuations.

-Increased rates of malnutrition:

Children and women are the most affected, with 50% of children under five suffering from severe malnutrition due to lack of available food.

3. Loss of biodiversity

-Extinction of local plants and animals:

Desertification has led to the loss of natural vegetation, causing the extinction of some plant species that played a fundamental role in stabilizing the ecosystem.

-Ecological imbalance:

Removing vegetation exposes soil to erosion, reduces natural habitats for animals, and leads to the migration or extinction of many species.

-Decline of traditional agricultural practices:

The loss of native plants reduces the availability of natural forages, affecting traditional pastoral activities.

1. Government efforts to combat desertification

-Extinction of local plants and animals:

Desertification has led to the loss of natural vegetation, causing the extinction of some plant species that played a fundamental role in stabilizing the ecosystem.

4. Migration and displacement

-Rural-urban migration:

Desertification has forced many farmers and herders to abandon their lands due to loss of livelihoods. It is estimated that about 70% of the rural population has left their lands in some affected areas.

-Aggravating urban challenges:

Internal displacement has put increased pressure on cities, which suffer from a lack of basic services such as water, electricity and housing.

-External migration:

Some of the population, especially young people, migrate to other countries in search of job opportunities, leading to a loss of labor force in the affected areas.

5. Impacts on poverty

-Increased poverty rates:

About 80% of Yemen's population lives below the poverty line, and with the loss of arable land and declining productivity, poverty is increasing, especially in rural areas.

-Livelihood disruption:

More than 70% of Yemen's population depends on agriculture and herding as their main sources of income, and desertification is destroying these economic activities, exacerbating livelihood crises.

-High cost of living:

Local food shortages increase dependence on imports, which raises food prices and burdens poor families.

Interconnected effects of desertification

-The cycle of poverty, migration and hunger:

Desertification leads to the loss of natural resources, which deepens poverty, forces population displacement, increases pressure on remaining resources and creates a vicious cycle.

-Conflict promotion:

Scarcity of natural resources such as water and fertile land leads to conflicts between local communities, threatening security and stability.



Conclusion of this section

Desertification in Yemen is not just an environmental issue; it is a multidimensional crisis affecting agriculture, food security, biodiversity, migration, and poverty levels. These impacts reflect the urgent need for comprehensive and sustainable interventions to halt the degradation and enhance the population's ability to adapt to these challenges. Addressing these impacts requires concerted local and international efforts to achieve a sustainable future.



Efforts to combat desertification in Yemen

Desertification is one of the most pressing environmental issues in Yemen, threatening agricultural lands and natural resources on which the majority of the population depends. To combat this phenomenon, many governmental and non-governmental efforts have been launched, but they face complex challenges that hinder achieving the desired impact. This section reviews current efforts to combat desertification in Yemen, highlighting the different roles and existing challenges.

1. Government efforts to combat desertification

1.1 Policies and Strategies

-National Plan to Combat Desertification:

The Yemeni government has prepared the National Plan to Combat Desertification as part of its commitment to the United Nations Convention to Combat Desertification. This plan aims to protect land, improve its productivity, and reduce soil loss through the implementation of land reclamation programs.

-Integrating desertification control into development plans:

Combating desertification has been included in national agricultural and rural development plans with the aim of reducing the impact of the phenomenon on food security.

-Water policies:

Water resources management policies have been developed, including enhancing irrigation efficiency and using water harvesting techniques in dry areas.

1.2 Government projects

-Natural Forest Restoration Project:

The Ministry of Agriculture and Irrigation has launched projects to replant natural forests, especially in degraded areas, with the aim of improving vegetation cover and reducing soil erosion.

-Water harvesting programs:

Establishing small dams and water ponds in rural areas to support farmers and improve water management.

-Environmental awareness programs:

Organizing campaigns to raise awareness about the importance of combating desertification and the sustainability of natural resources.

1.3 International cooperation

-Partnerships with international organizations:

The government has worked with organizations such as the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO) to implement projects aimed at reducing the impact of desertification.

Implementation of regional programmes:

Yemen has joined regional initiatives such as the Green Wall Initiative to enhance regional cooperation in combating desertification.

2. The role of non-governmental organizations

2.1 Contribution of local organizations


Heteen Development Foundation:

Combating desertification and confronting sand dune encroachment

Hattin Development Foundation believes that the land is not dead and that the desert can be filled with life and that our land is our future, especially after the current events witnessed in Yemen, which led to the displacement and abandonment of lands by many residents in remote areas...

Hattin's vision was to build many cities and villages in remote areas suitable for living and to provide all the necessities of life for the residents there in order to preserve the resources of those areas and revive them instead of the danger of drought and desertification that threatens those areas.

The project	the site	note
With the city's afforestation	Hadhramaut Seiyun	Insan Residential City with all residential, educational and health facilities and an artesian well
		

The project	the site	note
With the city's afforestation	Marib Al-Jafina Camp	Namaa Residential City with all residential, educational and health facilities and an artesian well
		

The project	the site	note
With the city's afforestation	Hodeidah Al Khawkhah	Namaa Residential City No. (2) with all residential and educational facilities and an artesian well



Strengthening humanitarian efforts to address, respond to and cope with drought and water depletion in Yemen.

Yemen suffers from climate change and misuse of water and agricultural resources, which contributes to the exacerbation of the desertification problem in Yemen, which is considered one of the dry and semi-dry regions with limited natural resources, and suffers from a dry climate and diverse and rugged mountainous, plain and desert terrains that suffer from limited water, all of which leads to the emergence of a harsh and volatile environment. At a time when the agricultural sector constitutes an important resource in the structure of the Yemeni economy, as about three-quarters of the population depends on agriculture and grazing for their livelihood, and agriculture consumes about 90% of water, which led to the depletion of groundwater, which in turn led to the emergence of indicators of the desertification problem suffered by the agricultural sector, the main resource for people's lives in Yemen.

In order to reduce the threat of increasing desertification and deterioration of agricultural lands, the Hattin Development Foundation has contributed to confronting the risk of drought and providing and preserving water, which is capable of making a difference in reducing this disaster. This is done through:

-Building and establishing a water network for modern agriculture in an agricultural area suffering from excessive water depletion in order to encourage farmers to use modern methods of agriculture.



-Expanding the drilling of artesian and manual drinking water wells in many remote areas suffering from severe drought and securing drinking water for the population and livestock, as more than (95) wells have been drilled, benefiting more than 350 thousand citizens.



Providing development and service projects for rural residents that contribute to their survival and prevent internal migration from rural areas.

The Yemeni person in the countryside is connected to the land and the services he obtains. Recently, migration from the countryside has increased significantly due to the lack of many services that contribute to his remaining in the countryside, which in turn leaves the land at risk of desertification and environmental erosion.

Therefore, Hattin contributed to providing some services for rural residents to help them invest in their lands and cultivate them and provide basic services for that, the most prominent of which are:

-Building bridges and roads in remote areas contributes to providing services to remote areas and alleviates their various sufferings.



-Building and constructing collection tanks to preserve drinking water, which contributes to alleviating the suffering of people in remote areas.





Adopting a people-centered approach to combat desertification in Yemen

Hattin Foundation believes that the human being is the main axis in the process of land reform, development and combating desertification, as the Yemeni human being depends directly on the land and has a pivotal role in the decision-making process. Therefore, young men and women were trained and qualified, and the role of women was strengthened socially, economically and scientifically in protecting renewable natural resources and improving economic and social conditions in Yemen through: implementing animal projects for rural women (dairy cows - goats).

Hattin Foundation also plays a prominent role in combating desertification by implementing community projects such as:

-Rehabilitation of agricultural land:

Supporting farmers with new technologies to improve soil and increase its productivity.

-Tree planting campaigns:

Launching programs to plant local trees, which contributes to improving vegetation cover and reducing soil erosion.

-Community awareness:

Conducting campaigns to educate the population about the importance of conserving natural resources and adopting sustainable agricultural practices.

-Other local institutions:

Organizations such as the Environment and Development Association and the Yemen Land Association are working to provide local solutions to the problem of desertification through capacity building and water harvesting projects.

2.2 Support of international organizations

-Small business financing:

Many international organizations such as GIZ and UNDP provide financial and technical support to NGOs to implement anti-desertification projects.

-Promoting environmental education:

Launch joint community education programmes, especially in affected rural areas.

3. Challenges and Obstacles

3.1 Lack of funding

-Impact of conflicts on financing:

Armed conflict has reduced budgets allocated to combating desertification and diverted resources towards urgent priorities such as humanitarian relief.

-Promoting Weak international contributions:

Although there is international support, funding is still limited compared to the size of the problem and the costs of the projects needed.

3.2 Poor coordination

-Lack of integration between parties:

Government and non-governmental efforts suffer from poor coordination, leading to overlapping programmes and duplication of efforts.

-Lack of databases:

The lack of accurate and comprehensive information about desertification in Yemen makes planning and implementation of projects less effective.

3.3 Impact of conflicts

-Destruction of infrastructure:

The ongoing war has destroyed many environmental and agricultural projects aimed at combating desertification.

-Migration and displacement:

The abandonment of agricultural lands by people due to conflicts is exacerbating desertification.

-Difficulty of access:

Conflict-affected areas make project implementation in some areas impossible or dangerous.

3.4 Limited community awareness

-Unsustainable practices:

Many farmers and pastoralists still rely on traditional agricultural practices that deplete natural resources.

-Challenges of change:

Poor awareness of the benefits of sustainable practices reduces community acceptance of new programmes.



Conclusion of this section

Yemen faces enormous challenges in combating desertification, but governmental and non-governmental efforts provide an encouraging framework for dealing with the phenomenon. However, overcoming the challenges requires strengthening coordination between stakeholders, increasing local and international funding, and raising community awareness about the importance of resource sustainability. Investing in combating desertification is an essential step to ensuring a sustainable environmental and economic future in Yemen.



A photograph of a desert landscape under a clear blue sky. In the foreground, a metal water tap stands on a cracked, dry earth. Water is flowing from the tap into a small pool. The background features rolling sand dunes and several dead, skeletal trees. The overall scene conveys a sense of water scarcity and environmental degradation.

Proposals and solutions to combat desertification in Yemen

Combating desertification in Yemen requires a comprehensive and sustainable approach that includes innovation, technology, and multiple partnerships. Given the country's environmental, economic, and social conditions, solutions must be tailored to local needs while drawing on international experiences. Below are a set of proposals and strategies aimed at strengthening national efforts to combat desertification.

1. Innovative strategies

1.1 Restoration of degraded lands

-Conservation agriculture techniques:

Use techniques such as conservation agriculture, which involves reducing soil tillage, conserving crop residues, and crop rotation to improve soil fertility and combat desertification.

-Replanting native plants:

Encourage the planting of drought-resistant native plant species, such as acacia shrubs, to enhance soil stability and restore biodiversity.

-Create natural windbreaks:

Planting tree belts around agricultural lands to protect them from wind erosion.

1.2 Improving water resources management

-Water harvesting techniques:

Building small dams, groundwater reservoirs and ponds to collect rainwater in dry areas.

-Drip irrigation:

Encourage the use of drip irrigation systems as a means of saving water and improving irrigation efficiency.

Restoration of valleys and natural drains:

Rehabilitation of old waterways to facilitate the flow of water to agricultural areas.

1.3 Enhancing community participation

-Involving local people:

Design training programmes targeting farmers and herders to introduce them to sustainable land management practices.

-Tree Planting Initiatives:

Organizing community campaigns that involve children and youth in planting trees, thus promoting environmental awareness.

-Incentive systems:

Providing financial or technical incentives to communities that adopt sustainable practices that reduce desertification.

2. The role of technology in combating desertification

2.1 Use of Geographic Information Systems (GIS)

-Monitoring environmental changes:

Using GIS systems to identify areas most affected by desertification and develop targeted plans for their reclamation.

-Data analysis:

Collect and analyze data on vegetation cover, soil quality, and water level to evaluate the effectiveness of interventions.

2.2 Remote sensing

Monitoring long-term changes:

Using satellite imagery to assess the extent of environmental degradation and monitor changes in vegetation cover.

Early warning:

Develop early warning systems to detect desertification risk areas and reduce land degradation.

2.3 Smart Technologies in Agriculture

Precision farming systems:

Using technology to provide water and fertilizers in smart ways, improving agricultural production and reducing resource depletion.

Mobile Applications:

Developing apps for farmers that provide daily advice on water management, pest control, and planting timing.

2.4 Use of Drones

-Land monitoring and reclamation:

Using drones to plant seeds in degraded areas, accelerating afforestation and land restoration efforts.

-Data collection:

Drones can collect accurate data on soil quality and vegetation quickly and efficiently.

3. Partnerships and Collaboration

3.1 Cooperation between government agencies

-Policy coordination:

Strengthening coordination between the Ministries of Agriculture, Water, and Environment to ensure integrated efforts and avoid duplication of programmes.

-Strict legislation:

Enforce laws prohibiting land-damaging practices such as overgrazing and logging without reforestation.

3.2 Partnerships with the private sector

-Encouraging green investment:

Inviting private companies to invest in sustainable projects such as solar energy and smart agriculture technologies.

-Social responsibility:

Calling on companies operating in Yemen, especially in the oil and mining sector, to support desertification control projects as part of their social obligations.



Conclusion of this section

Combating desertification in Yemen is a complex challenge, but relying on innovative strategies, modern technology, and strengthening partnerships can make a big difference. Solutions must be comprehensive and sustainable, with a focus on empowering local communities and harnessing technology to drive positive change. By coordinating efforts and expanding collaboration, Yemen can take important steps toward restoring its degraded lands and achieving a more sustainable future.

Conclusion and recommendations

Conclusion

The paper addressed the reality of desertification in Yemen as an urgent environmental and humanitarian issue that directly affects agriculture, food security, biodiversity, and livelihoods. We highlighted the main causes of desertification, including climate change, poor land management, overgrazing, and ongoing wars, supported by figures and statistics that reflect the worsening of the phenomenon.

We reviewed the efforts made by the government and NGOs to combat desertification, focusing on programs and projects that aim to restore degraded lands and improve the sustainability of natural resources. However, these efforts remain limited by major challenges including lack of funding, weak institutional coordination, and the impact of conflicts.

We proposed innovative strategies based on enhancing community participation, improving water resource management, and using modern technology, such as geographic information systems and drones, to monitor environmental changes and intervene quickly. We also highlighted the importance of strengthening partnerships between government, the private sector, and civil society, with strong support from international organizations.

Recommendations



1. Improving policies and legislation

-Developing a comprehensive legislative framework:

Establish strict laws to protect agricultural lands and natural resources, with clear mechanisms for their implementation and monitoring.

-Integrating desertification control into national development plans:

Making combating desertification a strategic priority within sustainable development plans and national programmes.

2. Enhancing financing

-Increase local and international support:

Allocate national budgets to combat desertification, while calling on international organizations and donor countries to increase funding.

Environmental projects in Yemen.

-Establishment of a National Environment Fund:

Establishing an environmental fund to support projects related to combating desertification and restoring degraded lands.

3. Promote technology and innovation

-Expanding the use of geographic information systems (GIS):

To identify degraded areas and develop targeted reclamation plans.

Exploitation of remote sensing and drones:

To monitor environmental changes and effectively direct resources to the most affected areas.

-Supporting agricultural innovation:

Encourage the use of smart farming techniques that reduce water consumption and increase land productivity.

4. Empowering the local community

-Awareness and education programs:

Organizing educational campaigns targeting farmers and herders to spread knowledge about sustainable land management practices.

-Empowering women and youth:

Involve women and youth in reforestation and natural resource management projects to ensure sustainability of efforts.

5. Strengthening partnerships and coordination

-Establish a national coordination platform:

Establish a platform that brings together government agencies, NGOs, the private sector, and international partners to enhance coordination of efforts.

Encouraging regional and international partnerships:

Join regional and international initiatives such as the African Green Wall Initiative and exchange expertise and resources.

6. Develop innovative water management solutions.

-Water harvesting projects:

Implementing small-scale water harvesting projects in dry and highland areas, and improving water use efficiency in agriculture.

-Rehabilitation of water infrastructure:

Repair damaged dams and reservoirs to improve water resource management.

7. Promote scientific research

-Launching field studies:

Support research on soil, vegetation, and water to provide accurate data to aid decision making.

-Cooperation with universities:

Establish partnerships between government and universities to support research projects that provide applicable scientific solutions.

8. Institutional capacity building

-Training of national cadres:

Providing training programmes for employees in government agencies and local organizations on natural resource management and combating desertification.

-Strengthening monitoring and evaluation systems:

Develop advanced systems to monitor the impact of environmental programmes and projects on combating desertification.



Finally

Desertification in Yemen is a serious but not insurmountable challenge. This challenge can be overcome by committing to sustainable solutions that rely on engaging local communities, strengthening partnerships, and employing modern technology. These recommendations aim to guide decision-makers and international organizations towards practical and implementable steps to support efforts to combat desertification, which will contribute to improving environmental sustainability and enhancing food security and livelihoods in Yemen.





The future vision of the Hattin Development

Foundation in the field of combating desertification

«Hattin Development Foundation aspires to be a pioneering model in achieving environmental and community sustainability through innovative programs and initiatives to combat desertification in Yemen. The Foundation seeks to restore environmental balance, protect natural resources, and enhance the ability of local communities to adapt to climate change, through the implementation of sustainable and comprehensive solutions based on modern technology, strategic partnerships, and effective community participation. The Foundation aims to build a green environment that contributes to improving food security, protecting biodiversity, and supporting sustainable development for current and future generations.»

Pillars of the future vision:

-Environmental sustainability:

Adopt sustainable projects that promote the restoration of degraded lands and conserve natural resources.

Technological innovation:

Use of modern technology such as Geographic Information Systems (GIS), remote sensing, and drones in land monitoring and management.

-Empowering communities: Enhancing community participation through awareness programmes, training farmers and herders, and empowering women and youth to be active partners in combating desertification.

-Partnerships and collaborations:

Strengthen cooperation with government agencies, international organizations, and civil society to ensure coordination of efforts and expand the scope of impact.

-Education and scientific research:

Support scientific research and educational initiatives that contribute to developing innovative solutions to combat desertification and climate change.

-Adapting to climate change:

Improving communities' ability to adapt to climate change by providing the tools and resources needed to do so.



This vision places Heteen Development Foundation at the forefront of national and regional efforts to combat desertification, enhancing its role as a major contributor to achieving sustainable development goals in Yemen.



Thank you..



مؤسسة حطين

HETEEN FOUNDATION

التنموية الخيرية



1622321

حسابنا في
بنك القطيفي



موقعنا
الإلكتروني

 nafakuw@gmail.com

 heteenyemen