

L'Art Rue

Dream City 2023

ورشات المدينة الحاملة

Manifesto

Ecological Transition
and Water Stress
«A Crucial Challenge»

دريم سيتي 2023

Les Ateliers de la Ville Révée

الشارع والفن

Ecological
Transition
and Water
Stress
«A Crucial
Challenge»

Octobre 2023

Introduction

Climatologists claim that global warming is a result of human activity that has intensified since the Industrial Revolution. According to the World Meteorological Organization's new 2022 report, weather, water, and climate-related disasters, such as extreme floods, heat, and drought, have affected millions of people and caused significant human and material damage. For example, in September 2023, the Daniel storm devastated the entire city of Derna, Libya, killing more than 10,000 people.

The intensification of disasters shows that the international community has been relatively slow to recognize the importance of the environment for sustainable development and the preservation of the rights of future generations, despite the adoption of the three Rio Conventions, which have been ratified by all UN member states. The United Nations Framework Convention on Climate Change (UNFCCC) is one of three conventions adopted at the 1992 Rio Earth Summit, along with two sister conventions, the Convention on Biological Diversity (CBD) and the Convention to Combat Desertification (CCD). The three intrinsically linked conventions have not been implemented with much synergy, jeopardizing the expectation of achieving the goals of the 2030 Agenda and the Sendai Framework for Disaster Risk Reduction.

In addition, the sixth report of the Intergovernmental Panel on Climate Change (IPCC) in 2021 states that global greenhouse gas emissions must be reduced by about 45% from 2010 levels by 2030 in order to limit global warming to 1.5 degrees Celsius. As a result, ecological transition has been identified as a shared process for achieving sustainable development goals and moving towards carbon neutrality, as expressed in the low-carbon and climate-resilient 2050 strategies developed by Parties in response to their commitments under the Paris Agreement.

Tunisia is one of the most vulnerable countries to climate change. Agriculture, coastlines, ecosystems, and especially water resources are at high risk. The water stress indicator alone, exceeding 98% in 2020, explains the water and food crisis facing the country.

The Ecological Transition Strategy that has been developed includes several specific objectives, in particular «limiting the impact of climate change on water resources and transforming management models to meet water needs». As water scarcity becomes more widespread around the world, water and food security are at high risk given the virtual exchange of water between countries, raising the question of whether the ecological transition process would be compromised by a dry climate.

I. The Problem

How can we assess the effectiveness and relevance of global ecological transition policies in the context of future climate scenarios?

Increasingly limited water availability and more frequent droughts are likely to affect ecological transition projects, especially those related to agriculture, given that 70% of water withdrawn from rivers, lakes and aquifers is used for irrigation.

Given that demand for freshwater is projected to exceed supply by 40% by 2030, what specific actions are needed to adapt and sustain the ecological transition in a context of increasing drought?

How do limited water resources affect the viability of ecosystems, the basis for ecological transition, and what solutions could be envisaged to maintain ecosystem services that are highly dependent on freshwater availability?

In a potentially drier future, what technological innovations or water resource management and governance methodologies would be best suited to effectively support the environmental transition, given that current global energy production is a major consumer of water?

In Tunisia, where water scarcity is already a major challenge, how does the country plan to adapt its ecological transition policy in light of the fact that nearly 30% of its water resources are lost due to leakage in water supply networks, while demand for water continues to increase due to rising temperatures and agricultural needs (both irrigated and rain-fed)?

II. Recommendations

Water management measures

Efficient water management (government responsibility):

Focus on efficient management of water resources, aligning actions with Integrated Water Resources Management (IWRM) and adopting a regulatory framework adapted to the context of water scarcity.

Rainwater harvesting:

Investigate the feasibility of rainwater harvesting by implementing appropriate methods and considering water quality and public health implications.

Reuse of treated wastewater:

Optimize wastewater treatment to ensure better quality of treated water and promote reuse of treated wastewater for appropriate purposes to reduce water stress.

Improved water supply:

Strengthen and modernize water supply infrastructure to meet priority water needs.

Sustainable agriculture measures

Sustainable agriculture for food security:

Promote the adoption of sustainable agricultural practices such as localized irrigation, agroecology, soil conservation, crop rotation, and precision agriculture.

Regional and international cooperation:

Collaborate with other countries to optimize the management of shared water resources, moving beyond simple transboundary cooperation to global cooperation based on the water cycle as a resource and common good of humankind.

Use of less water-intensive crops:

Encourage the cultivation of less water-intensive crops to reduce pressure on water resources (revision of the agricultural map, taking into account climatic conditions).

Strategic resources:

Create new water resources as strategic reserves for agricultural needs (atmospheric water, desalinated seawater, artificial rainfall, etc.).

Legislative and regulatory measures

Legislation and regulations: Implement comprehensive regulatory frameworks that value the preservation of water resources, prohibit harmful activities and limit pollution, and systematically practice circular economy.

Hydro-diplomacy and awareness-raising measures

Hydro-food-energy diplomacy based on the Nexus approach:
Strengthen diplomatic relations with partner countries to promote food and energy exchanges to ensure water, energy and food security.

Agricultural awareness:
Raise farmer awareness, build capacity and transfer knowledge, with an emphasis on irrigation and rainfed agriculture, given that agriculture is the main consumer of water.

Raising consumer awareness:
Reorder governmental priorities in accordance with the responsible management of virtual water exchanged between states.

Measures to promote the ecological transition

Use of renewable energy:
Reduce dependence on fossil fuels by supporting research and development of green technologies, encouraging the development of economic sectors such as ecotourism and renewable energy, and implementing waste reduction and recycling policies.

Create new mechanisms to promote ecological transition:
Promote the introduction of payments for ecosystem services as an alternative income in case of reduced agricultural yields, thus providing a source of finance for farmers (mechanisms to be developed).

Selection of salt- and drought-resistant tree varieties:
Encourage the planting of trees adapted to local conditions to conserve water resources and prevent erosion.

→ By implementing these measures in a coordinated manner, adapted to regional specificities, Tunisia can address the challenges of water stress while promoting a successful ecological transition that will ensure a sustainable future.

III. Advocacy

Our appeal is a cry of urgency to the international community: It is crucial to recognize that the ecological transition has become, far beyond a simple environmental aspiration, an imperative for maintaining stability, world peace, and meeting the basic needs of all nations.

The goal is to raise awareness of an undeniable reality: in a world increasingly affected by drought, ecological transformation remains out of reach. It is therefore vital to take immediate steps to establish a global agreement, a pact that governs the management of the virtual mass of water exchanged between different nations.

In an environment where countries are so interdependent, international cooperation is the key to meeting this daunting challenge.

Far from being an option, the ecological transition has become an absolute necessity if we are to combat the climatic upheavals that threaten the very existence of humanity.

This document was produced at the end of the Dream City Workshops (AVR) held as part of the Dream City 2023 Festival.

The aim of this appeal is to alert decision-makers to the need to revise the Paris Agreement to take into account the water scarcity caused by climate change, which is the main obstacle to the ecological transition.

This manifesto was developed by nine young people from different fields, each representing a Tunisian city, under the guidance and expert advice of Dr. Raoudha Gafrej and Dr. Adnen El Ghali, during the period from October 2 to 6, 2023.

Abdallah Sinaoui
Kelibia

Ahmed Jemaa
Nabeul

Ahmed Zayani
El-Maâmoura

Manar Elkebir
Gabes

Nawel Benali
Sfax

Najet Ben Mabrouk
Douz

Nafissa Rahal
Gafsa

Sarra Yahyaoui
Ghomrassen

Yassine Cherif
Bardo

