



## Somalia's environment— an irreplaceable treasure is in danger

The list of Somalia's environmental challenges is long. It spans from deforestation to land degradation. From overgrazing to water scarcity. Lack of efficient waste management systems leads to pollution of water sources and the coastline. Environmental degradation is visible all over Somalia and impacts the food security and livelihood situation of the people. The lack of effective government authority for two decades meant that environmental regulations did not exist. The New Deal for Somalia—an action plan for 2014-2016 agreed by the new Government and the international community—makes a tangible step forward towards addressing Somalia's environmental needs: under Peace and Statebuilding Goal 4, the Federal Government commits to taking action and setting up legal and regulatory frameworks to ensure sustainable environmental and natural resource management, including sharing natural resources and their revenues. In Somaliland, the Somaliland Special Arrangement also addresses environmental needs and recognizes the importance of protecting the environment and of cultivating the productive sectors (agriculture, livestock and fisheries) as well as water and natural resources. This will help to reduce poverty, strengthen Somaliland's economy and create employment. It stresses that environmental protection and



the development of renewable sources of energy for both household consumption and for larger scale commercial purposes are key priorities and will help mitigate the impacts of climate change, deforestation and environmental degradation. These commitments do not come too soon: Somalia's environmental needs are many and most of them have far-reaching consequences on the Somali people's ability to grow their own food and support the well-being of their families. Unregulated exploitation and destruction of the environment only adds to rural impoverishment and future conflicts as resources continue to dwindle. Agriculture and livestock are the backbones of Somalia's economy and are often at the mercy of climatic extremes, including periodic droughts, flooding and land degradation. Due to water scarcity in many parts of the country, access to safe water is another concern. Access to water and environmental degradation from overgrazing has become a source of conflict among pastoralists and farmers. Similar conflicts flare over access to irrigation canals. The majority of the population depends on trees for firewood and charcoal production and changes in environmental conditions often restrict access to vital sources of energy even further. And yet, Somalia has a huge untapped resource in 8 hours of sunshine, wind and its coastline. The solution to Somalia's environmental challenges lies in its environment itself.

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*"Change is in the air in Somalia. After decades of conflict, peace is at reach and emerging institutions have begun to tackle Somalia's burning issues. Among these issues is one which more often than not falls off the agenda: the environment. Environmental degradation has a huge impact on the lives of the people directly through climatic hazards such as floods and droughts as well as indirectly through food security and livelihoods. The Somali people are feeling the impact of environmental problems already and climate change will only exacerbate them over time. To help the Somali Government and people address these concerns, the UN focuses on strengthening the resilience of the Somali people through environmental rehabilitation projects, early warning systems to mitigate the impact of climatic hazards and tapping into sources of renewable energy that have not been used so far. In the long term this will help making electricity more affordable for the Somali people while taking some pressure off the environment. On the following pages we will show you how we do that."*

Philippe Lazzarini  
Deputy Special Representative  
of the Secretary-General  
Humanitarian and Resident  
Coordinator for Somalia

## INTERVIEW

### Ahmed Ibrahim Awale

Director of Candlelight for Health, Education and Environment



- **13 per cent** of Somalia's land is potentially arable.
- Forest and woodlands make up for **12 per cent** of the country but with a rate of 0.97% per year deforestation—mostly for charcoal production—is an immense problem.
- Somalia receives between **8-8.5 hours of sunshine** per day (2,900-3,100 hours/year) making it a potential producer of solar energy.
- With **3,025 kilometres**, Somalia has the longest coastline in Africa and a huge potential for fishing. However, illegal, unregulated and unreported fishing—mostly by foreign fishing boats—and the inability to control the dumping of hazardous waste have prevented Somalia's artisanal fishing industry from growing.

## Focus on

### Environment and poverty

In Somalia, the poor – and especially women – are the most affected by environmental hazards. They rely heavily on natural resources, such as firewood for their livelihoods and are more likely to be affected by extreme weather events. Most women have less financial, physical and human resources than men and have fewer options to respond to environmental shocks. Environmental concerns such as the degradation of rangeland or soil erosion on farmland affect the poor because they are directly related to food security and the majority of their money is spent on food. Declining soil fertility for example leads to smaller crops and deterioration of water reduces the fish catch. Shortages of firewood may lead people to eat lower-nutrition foods that need less fuel for cooking. Recurrent droughts also result in loss of harvest crops and can contribute to malnutrition. Without basic services systems such as clean water, many poor people rely on the use of polluted water and have no appropriate means to dispose of waste. This means that they are vulnerable to diseases such as cholera or dengue fever. Poverty forces people to overuse the limited resources available to them. However, it would be wrong to say that poor people automatically degrade environmental resources. Many poor traditional communities demonstrate an admirable environmental ethic and have complex ways of managing their resources.



**Above:** A dry riverbed in Burco, Somaliland.  
© FAO Somalia/F. Nyakairu

## Offering Somalis alternate sources of energy

Somalia's trees are disappearing fast. Each year, 4.4 million trees are cut down. Very few are planted. Each year, the already parched land sees another 72,900 hectares stripped of growth.

The once vast acacia groves are fuelling a lucrative industry--charcoal production. Charcoal production accelerates the process of desertification. It decreases the amount of land for agriculture and

**Below:** Charcoal production in Hargeysa.  
© UNDP Somalia



grazing and pushes locals out as land is uninhabitable and unusable after charcoal producers cut all the trees. This deforestation also decreases biodiversity as species that relied on the acacia groves are unable to survive without them. Churning out charcoal has led to a triple threat in Somalia -- irreversible environmental degradation, sustained conflict and widespread dependence on an unsustainable livelihood option. To address these issues, three United Nations agencies- FAO, UNEP and UNDP- launched a programme in 2013 to reduce charcoal use in Somalia in April 2013, under the leadership of the Ministry of Natural Resources. The programme will enhance regional cooperation, and establish regulatory instruments and enforcement mechanisms to stop the production and export of charcoal. Jointly, the agencies will introduce alternative

sources of energy and help beneficiaries of the charcoal production industry to find better, less destructive ways to earn an income. Over 98 per cent of urban households in Somalia use traditional charcoal stoves, while most rural and nomadic communities use firewood and inefficient biomass stoves. Ironically, shifting to the charcoal-using but more efficient stoves could reduce consumption of charcoal by 50 per cent. The use of efficient kilns for charcoal processing could increase production by 60 per cent and reduce the cutting of wood by 80 per cent.

### Introducing solar energy

Somalia has a good solar and wind energy potential and moving towards these sustainable sources of energy could solve Somalia's energy problems while at the same time protecting the environment. The country sees eight hours of sunlight a day on average. Once the solar energy systems are

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installed, energy production is almost free. This is important in a country where the people are poor and electricity is at one of the highest levels in the world.

UNDP and its partners have started installing solar energy systems in selected hospitals in Baidoa, Galkayo, Garowe and Burco to generate power. Similar systems are being set up in public buildings in Eyl, Mogadishu, Boroma and Hargeysa.

At Garowe hospital, the first solar energy system has recently been connected to the energy grid and can now serve the entire hospital with clean energy. The project also provides basic solar appliances, like solar lanterns, solar water heaters and solar street lights for community centers such as schools, play grounds and surroundings of IDPs camps.

*Below: The new solar energy system at Garowe hospital. © UN Somalia*



To operate and maintain the solar energy-based systems, the project will train 200 young Somalis, 60 of whom are women, This will teach the youth valuable skills while at the same time ensuring the solar energy systems can be run and maintained sustainably without depending on experts abroad.

**Over 98 per cent of urban households in Somalia use traditional charcoal stoves**

The impact of the project is already tangible for the people in Garowe. The solar energy is sustainable and efficient and reduces the burden of stiff electricity bills as Somali electricity utilities charge one of the highest tariffs in the world. Most importantly, solar energy will help to save lives by providing assured supply of energy to important departments of the hospitals, such as surgery rooms, diagnostic labs and post-operative departments.



*Above: The UNDP biogas project in Sheikh, Somaliland. © UN Somalia*

digesters' process animal waste into biogas, piped directly into users' kitchens. A veterinary school in Sheikh is also using this form of energy for its laboratory. If scaled up, the use of biogas will benefit Somali women, most of whom cook daily meals over harmful emissions from fuel wood and charcoal. These gases fuel respiratory problems and pollution. Additionally, families will be less likely to go out of their way to hunt for wood or pay

**Somalia has a big solar and wind energy potential - with more than 8 hours of sunshine per day**

exorbitant prices for fuel wood or charcoal from local markets.

**Championing biogas**

Another sustainable way of producing energy is championed by UNDP in Sheikh, Somaliland: The biogas project there uses animal waste to provide energy for cooking. Using this technique, 'biogas

**Adapting to climate change**

With support from UNEP, Somalia was able to tap into global climate funds reserved for least developed countries in 2013, to implement a national climate change adaptation programme. This programme will help Somalis prepare for and identify urgent needs to cope with extreme weather patterns, build communities' resilience.

**Providing Somalis with access to safe water**

Water is a source of life and indispensable for responding to basic human needs. But less than one in three people in Somalia have access to safe drinking water. Poor infrastructure, overcrowding, lack of sanitation and inadequate access to water result in communicable diseases, especially among displaced and mobile populations. The absence of clean and safe water is the major factor contributing to the high mortality rates for IDPs, particularly children under the age of five. In communities with little or no sanitation coverage, open defecation is commonly practiced and contributes to environmental contamination and increase the risk of water-borne disease outbreaks, like cholera. In 2013, the UN provided one million Somalis with access to safe water. The International Organization for Migration (IOM) for example, provides internally displaced persons with safe and clean water in Mogadishu by connecting boreholes to water tanks. Since 2013, 59,300 people in 11 settlements have benefitted from these activities. Overall, IOM has provided 108,000 Somalis with access to safe water. UNICEF builds the resilience of Somalis by setting up solar powered water systems in villages all over Somaliland. UN HABITAT with funds from the European Union is upgrading Hargeysa's urban water supply, one of UNHABITAT's biggest projects worldwide. The project will increase Hargeysa's daily water supply by at least 39 per cent.



*© UNICEF Somalia*



# Bouncing back—building resilience in Somalia

Due to its geographic characteristics and arid climate, Somalia is vulnerable to climatic hazards such as drought, flash floods and even tropical storms like the one that hit Puntland in November 2013. In order to help people recover from climate shocks and be better prepared should these occur again, the UN works towards strengthening the resilience of Somalis.

WFP, FAO, UNICEF, UNDP and ILO implement short-term labour programmes that all help communities improve livelihoods while at the same time rebuilding vital local infrastructure and rehabilitating the environment. These activities result in valuable assets for the communities, such as water catchment structures and wells. Through these programmes, Somalis are trained in income-generating activities that empower them and make them independent. Beneficiaries can enroll in activities like planting market gardens.

Projects are implemented on a seasonal basis, for instance during hunger periods or lean seasons, between harvests. This helps address food deficits and prevents people from resorting to harmful coping strategies, such as selling off assets or livestock to provide short-term solutions. Cash transfers through mobile phones or money transfers to vulnerable families help build resilience.

## Monitoring climate data

Good quality water and land

*Below:* © FAO Somalia



information is crucial to resilience initiatives in Somalia. Two decades of civil strife in Somalia resulted in the loss or damage of most of the water and land related information collected in the previous half century. The Somalia Water and Land Information Management (SWALIM), an information management unit within FAO, collects these data and makes them available to Somali administrations, non-governmental organisations, development agencies and UN organizations. This information helps to strengthen the resilience of Somali communities whose lives depend directly on water and land resources.

SWALIM has been monitoring climate data for nine years using automatic weather stations and manual rainfall stations in Somalia. A disaster risk reduction and early warning partnership has also been established between SWALIM and the *Humanitarian Affairs and Disaster Management Agency (HADMA)* of Puntland and the *National Environment Research and Disaster Preparedness and Management Authority* in Somaliland, to monitor flash floods and drought. SWALIM supports the Ministry of Environment in developing environmental degradation monitoring networks and training of staff on environmental information management.

## Mapping Somalia's resources

Water scarcity continues to undermine health, food security and basic hygiene in Somalia. Rainwater only becomes available during the rainy seasons and large reservoirs for surface water storage are lacking in the country. In this situation, groundwater can be a source of resilience. However, little is known about the precise location of clean

groundwater and reaching it is often difficult and costly.

As part of a regional groundwater mapping programme in Kenya, Ethiopia, South Sudan and Somalia, UNESCO uses new space-based technologies to tackle the groundwater knowledge and capacity gap by identifying water supplies. This will help to mitigate against long-term drought and famine. At the same time, the programme aims to train experts skilled in the use of advanced tools and techniques in assessing and managing groundwater resources in the challenging context of semi-arid climates and drought-prone areas.

Initial surveys have been done in Kenya and Ethiopia and will be conducted in Somalia as soon as funding becomes available.



*Top:* Fish cooking demonstration.

© WFP Somalia/L. Ali

*Below:* The new flash flood monitoring system in Garowe. © FAO Somalia/SWALIM

## Barre Hassan Arab, village chief

*"The Dawo river runs next to our village and has always been a source of water for our animals and for domestic consumption, but now because of the frequent droughts, we have seen the river in a different light, as a source of [alternative] livelihoods. That is the reason that we have started farming."*



## About Ahmed Ibrahim Awale

Ahmed Ibrahim Awale is an environmentalist and author with over 25 years of experience in development work. He is one of the co-founders of Candlelight for Environment, Education and Health, a Hargeysa-based environment organization and has served the organization as a Director for more than a decade. He is acting as the organization's Chairperson to date. Ahmed Awale also gives lectures on environmental science at the University of Hargeysa and manages the facebook page "Save the Somali Environment".

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### Q What are the biggest challenges with regard to the environment in Somaliland and how do they affect the people?

The challenges are many but some of the most pressing ones are low public awareness of the importance of the environment, deforestation, soil erosion, climate change and droughts, garbage and pollution, unsustainable fishing practices and institutional challenges. Besides, poverty is a main trigger of environmental degradation, as poor communities have no choice other than making the most out of the environment.

**"Poverty is a main trigger of environmental degradation"**

also among the political and economic decision-makers. However, since the past few years, there was a growing awareness in this direction. Unfortunately, these efforts are like a drop in an ocean when it comes to the rate of environmental degradation in the making. Limited public awareness on the importance of environment is why most communities are so

passive in taking remedial actions to protect and conserve the environment. The effects of deforestation are turning many eco-systems into wasteland compromising the livelihoods of rural communities who are predominantly pastoralists/agro-pastoralists.

### Q Why is it important for the Somaliland people to protect the environment?

Environment is very essential in every aspect of life. More so, it is important for the people of Somaliland as they derive their livelihoods from the environment. Any loss in the integrity of environment, will proportionally be reflected in the decline in the quality of life of its people. Therefore, it is a matter of paramount important that it has to be protected and conserved in a manner that ensures its continuity for meeting the needs of the present, without compromising the needs of the future generations.

### Q What needs to be done to mitigate these effects and reduce environmental degradation?

Devastation of woodlands poses a great threat to the environment and the livelihoods of the pastoral and agro-pastoral communities, as well as the overall population of the country. Therefore, there is a need to crucially address this issue through reduction of dependence on charcoal which is the main contributing factor to the denudation of the rangelands. This can be addressed through

diversification and use of alternate sources of energy. Liquefied petroleum gas (LPG), is slowly being adopted although not affordable for most households. Coal (briquette) stoves for domestic use could also be an option.

There is a need to activate the various natural resource management policies and legislations, but many government institutions suffer from a lack of resources. Empowering these institutions could be an important step to address these challenges. There is also a need to initiate techniques towards recycling garbage. This will contribute to a

**"Alternate sources of energy will help reduce the dependence on charcoal"**

cleaner and healthier environment, more jobs and income for many people.

Somaliland is not involved in any international efforts to mitigate or adapt to climate change. The recently developed National Adaptation Plan of Action under the auspices of UNDP is a step in the right direction and will open windows for funding climate-related activities.

*Below: © FAO Somalia*

### Q Are the people in Somaliland aware of the importance of protecting the environment?

The level of awareness is very low not only among the populace but



# Protecting the people and the land

In 2011-2012, Somalia was devastated by a famine caused by insecurity, an unrelenting drought and restricted access which exacerbated the country's humanitarian crisis. The situation was especially dire in southern Somalia, where a famine was declared by the UN in five regions. Emergency medical and nutritional interventions became necessary. Rising food prices and deteriorating livestock worsened the situation and thousands of Somalis were forced to leave their homes and settle in other parts of the country. These internally displaced people often rely on natural resources for their survival, especially in emergency situations. They cut trees and use them to build temporary shelters or as firewood to cook meals or keep them warm. However, this often unsustainable use of resources can lead to environmental degradation and

can affect the well-being of refugees and IDPs as well as host communities. Refugee camps and IDP settlements are not meant to be permanent, but some last for decades. When trees are cut, this can affect the relations with host communities whose livestock depend on trees and vegetation. The UN refugee agency (UNHCR) works to keep the environmental impact of displaced persons and refugees as low as possible. One way to do that is through implementing reforestation programmes. Organized as green belts, plants reduce the pressure on the environment, restore the vegetation and provide an income-generating activity for the displaced. UNHCR and UNDP also distribute fuel-efficient cooking stoves to IDPs and other vulnerable women to keep their environmental footprint low. By reducing the amount of charcoal needed, these stoves are not only



*Above: Women use fuel-efficient stoves.*  
© UNDP Somalia

environment friendly but also mean the women spend less money on buying fuel. As safe drinking water is rare and the only reliable water source in camps such as Dadaab often is ground water supplied by boreholes, UNHCR and partners harvest rain water in schools, hospitals and communities. Having a reliable source of water also helps prevent diseases.



*Plant-A-Tree campaign in Mogadishu 2013.* © FAO Somalia

## Plant-A-Tree campaign

Since 2013, the Plant-A-Tree campaign spearheaded by the Ministry of National Resources and supported by FAO has seen more than 5,000 trees planted in Somalia. Planting trees combats desertification and improves the soil quality and can help boost crop yields for Somali farmers and provide fodder for animals. For World Environment Day 2014, FAO will set up a tree nursery in Dollow in south and central Somalia, raising environmental awareness in yet another Somali region.

## Ensuring environmental responsibility and sustainability

The United Nations Office for Project Services (UNOPS) pays attention to designing and implementing infrastructure projects in an environmentally responsible and sustainable way. To prevent or mitigate negative impacts on the environment, UNOPS has developed an Environmental Management System (EMS) that is applied to all infrastructure projects it implements. This will ensure that all environmental impacts of the project that are within UNOPS control are considered and addressed throughout the project life. This helps identify environmental risks and/or opportunities so that they can be managed in a coherent, effective and efficient manner.

## Getting the info...

Due to insecurity over the last two decades, environmental data is scarce. Co-led by the World Bank and the United Nations Development Group (UNDG), a Joint Needs Assessment for Somalia was conducted in 2006 which constituted a first step towards gathering current environmental information. UNEP was the lead agency responsible for identifying and reporting environmental issues in Somalia.

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