Observatoire du Sahara et du Sahel
Sahel and Sahara Observatory

ADAPTATION EFFORTS AND COMMITMENTS OF OSS MEMBER COUNTRIES IN THE SAHARA AND SAHEL ZONE IN COMBATTING CLIMATE CHANGE

CLIMATE CHANGE IS A REALITY

Whereas Africa is the continent that contributes least to greenhouse gas emissions (3.8% of global GHG emissions); it is the continent the most vulnerable to climate change.

Despite its high potential for successful experiences in adapting its populations to the adverse effects of climate change, the adaptation measures undertaken by Africa thus far remain inadequate in facing the big challenges.

Sustainable land management is one solution to reduce GHG emissions and increase carbon sequestration. African countries, including countries of OSS action zone, have shown strong commitment in combating climate change.
Almost all of these countries have presented their national contributions (INDCs) with a view to COP21. Access to existing financial resources is highly important for these in order to fulfill their commitments.

In this respect, OSS strives to support its member countries in the sustainable management of their natural resources and in gaining access to climate finance.

CLIMATE CHANGE
IS REALITY TODAY ...

The observations of the Intergovernmental Panel on Climate Change **(IPCC)** confirm that the warming of the climate system has become an equivocal fact. A link between human activity on the one hand and temperature increase since the 1950s on the other hand is extremely likely **(IPCC 5)**.

CLIMATE CHANGE OBSERVATIONS ARE UNPRECEDENTED (IPCC, 2013) ...

- Earth has warmed with 0.6 to 1°C between 1901 and 2010. Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850 ;
- The global sea level has risen by 19 cm on average ;
- The annual average Arctic sea ice extent shrunk by 2.7 % per decade since the 1950s ;
- The ocean warming is largest near the surface, and the upper 75 m warmed by 0.11 [0.09 to 0.13] °C per decade over the period 1971-2010 ;
- Precipitation increased significantly in eastern parts of North and South America, northern Europe and northern and central Asia whereas precipitation declined in the Sahel, the Mediterranean, southern Africa and parts of southern Asia ;
- The intensity and frequency of extreme weather events, such as heavy rains and heat waves, have « likely » increased due to climate warming.

... AND A THREAT TO THE FUTURE CONTINUES TO EXIST

Since the beginning of the measurements of CO2 in the atmosphere in 1958, the average annual concentration of CO2 increased steadily from one year to another and at an accelerated pace from one decade to another.

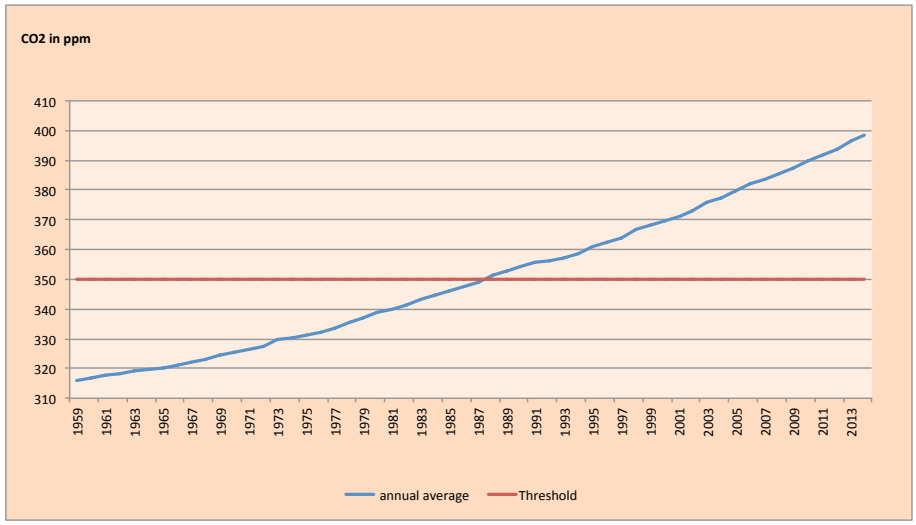
Recent data on CO2 concentration in the atmosphere further confirm this trend. The safe upper limit for atmospheric CO2 is 350 parts per million (ppm).

This level has been reached since the beginning of 1988.

Year	Major events since 1959
2015	COP 21
2012	Rio + 20
2009	Copenhagen Accord
2007	Nobel Peace Price *(IPCC)*
2002	Johannesburg, Summit on sustainable development
1997	Kyoto Protocol
1992	Earth Summit in Rio de Janeiro *(Brazil)*
1987	Last year which the annual CO2 level was less than 350 ppm
1959	The first year with complete data

Source NOAA-ESRL,2015

CO2 Concentration in the Atmosphere



Source NOAA - ESRL, 2015

THE SCENARIOS PRESENTED BY THE IPCC'S FIFTH ASSESSMENT REPORT (IPCC 5, 2014)

The fifth report of the IPCC presents 4 scenarios (RCP 2.6, RCP 4.5, RCP 6.0 et RCP 8.5) including :

- **An optimistic scenario (RCP 2.6)** which involves significant reductions of GHG emissions by the international community
- **A pessimistic scenario (RCP 8.5)** which is rather «likely» since it corresponds to a continuation of the current emissions trend.

Only the optimistic scenario can limit global temperature increase under the threshold of 2°C. Under the pessimistic scenario, the increase of the average temperature at the planet surface could increase by 4, 8°C in 2100 compared to the period 1986-2005.

Global warming by 3, 5 to 4°C is more and more likely,

according to the World Bank's report «Turn Down the Heat » (2012) and this despite the all the good intentions of the international community to limit global temperature rise to only 2°C above pre-industrial levels.

The rise of sea level is an unequivocal phenomenon

with a future rise of 29 to 82 cm by the end of the 21st century (2081-2100) – **(IPCC 5)**

The implementation of the Intended Nationally Determined Contributions (INDCs) could limit the projected temperature increase

to about 2,7 degrees Celsius by 2100. *(Synthesis Report of the Aggregate Effect of Intended Nationally Determined Contributions (INDCs)).*

ALONGSIDE THE EQUATOR AND THE TROPICS, Africa displays a variety of hot climates

The equatorial climate dominates a part of the Gulf of Guinea and the Congo basin. It is characterized by heat and humidity throughout the year. This climate comprises 4 seasons : 2 rainy seasons and 2 dry seasons.

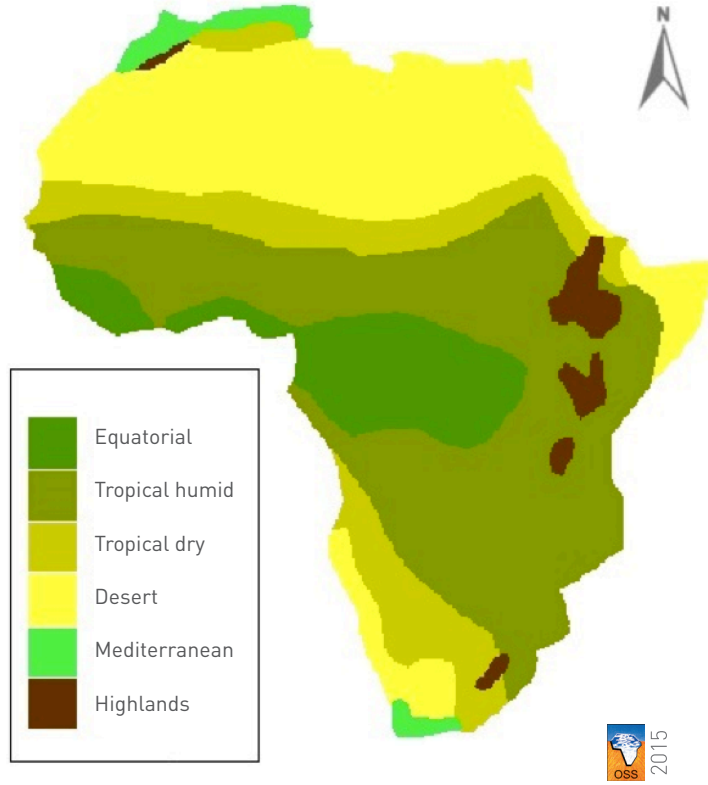
The humid tropical climate on both sides of the equatorial region. It is characterized by high temperatures, a rainy season and a dry season.

The dry tropical climate is the type of climate found between the humid tropical zone and the desert zone. It is characterized by highly varying temperatures, a short rainy season and a very long dry season.

The desert climate in the deserts of the Sahara and of Kalahari. It is characterized by extreme drought, very high temperatures and significant variations of temperature.

The Mediterranean Climate dominates the two extremities of Africa. It is characterized by hot and dry summers and mild and wet winters. Rains in such type of climate are often torrential.

Climate Types in Africa



Source : Statistiques mondiales

Many regions of Africa have long been exposed to climate variability and therefore provide considerable experiences and good practices and innovations in adapting to the adverse effects of climate change.

This is particularly the case when addressing issues such as the efficient exploitation of scarce water resources in arid and semi-arid areas, the valorization of the agronomic potential as well as the consideration of the biodiversity which are well adapted to extreme and variable climate conditions.

AFRICA, AT THE HEART OF CLIMATE CHANGE-RELATED DISCUSSIONS AND ACTIONS

2003 : Action Plan for the Environment Initiative, NEPAD adopted by the AU

As regards climate change, the plan highlights the necessity to identify the most vulnerable ecosystems, regions and populations to climate change, to develop adaptation strategies for the regions and sectors identified and to implement pilot projects and demonstration sites.

2005 : **G8 Gleneagles Summit**

A number of decisions were taken to reduce Africa's debts and increase public aid for the development of African countries in order to support their on-going efforts aiming at reducing vulnerability and adapting to climate change.

This has been translated in strengthening the capacities of institutions devoted to climate change issues, notably through the Global Climate Observing System (GCOS).

2006 : **COP 12 Nairobi**

- Implementation of the Clean Development Mechanism (CDM). The COP decided to assist Africa in obtaining funds, notably for « clean » wind or hydro energies.
- Creation of an African Group of negotiators (AGN) by the African Union to be the representative body of Africa at international meetings and negotiations on Climate Change.

2007 : **Climate Change Adaptation in Africa Programme (CCAA)**

Support to Africa in its efforts to reduce vulnerability to climate change.

2008 : **Consideration of climate risks by the World Bank by creating several climate** funds (Climate Investment Funds, Forest Carbon Partnership Facility (FCPF)...)

2009 : **Nairobi Declaration**

adopted by the African Ministerial Conference on the Environment on climate change.

2010 : **Launch of the CLimDevAfrica Initiative**, jointly by the African Union Commission (AUC), the Economic Commission for Africa (ECA) and the African Development Bank (AfDB) for the production, sharing and exchange of knowledge on climate change in Africa and support to the establishment of national policies related to climate change.

2011 : **Launch of a Climate Change Action Plan (CCAP)**
by the African Development Bank.

AFRICA, A CONTINENT STRONGLY AFFECTED BY CLIMATE CHANGE

In Africa, the effects of climate change contribute to the deterioration of the natural resources of a region facing at the same time a growing demand for food products, fodder, firewood and freshwater.

According to the World Bank [1], the combination of decreasing precipitation on the one hand and increasing temperatures on the other will lead to an increase of 5 to 8% of arid lands by 2020 (60 to 90 million hectares).

With a climate warming of 1,5 to 2°C, droughts and aridity will render 40 to 80% of agricultural lands unsuitable for the cultivation of corn, millet and sorghum by 2030-2040.

[1] *Turn Down the Heat Rapport*

With an additional warming projection of 4°C by 2080 :

- Annual precipitation could decrease by up to 30 % in southern Africa, while, according to several studies, the Eastern part of the continent would probably know an opposite phenomenon.
- The rise of the sea level could have an impact on several costal middle-latitude areas and could result in increasing sea water intrusion into aquifers used for irrigating coastal plains.

The economic costs of climate change adaptation in Africa correspond to 1,5 to 3 % of the annual gross domestic product of the continent until 2030, i.e. a cost much higher than that of any other region in the world (Stockholm Environment Institute, 2009).

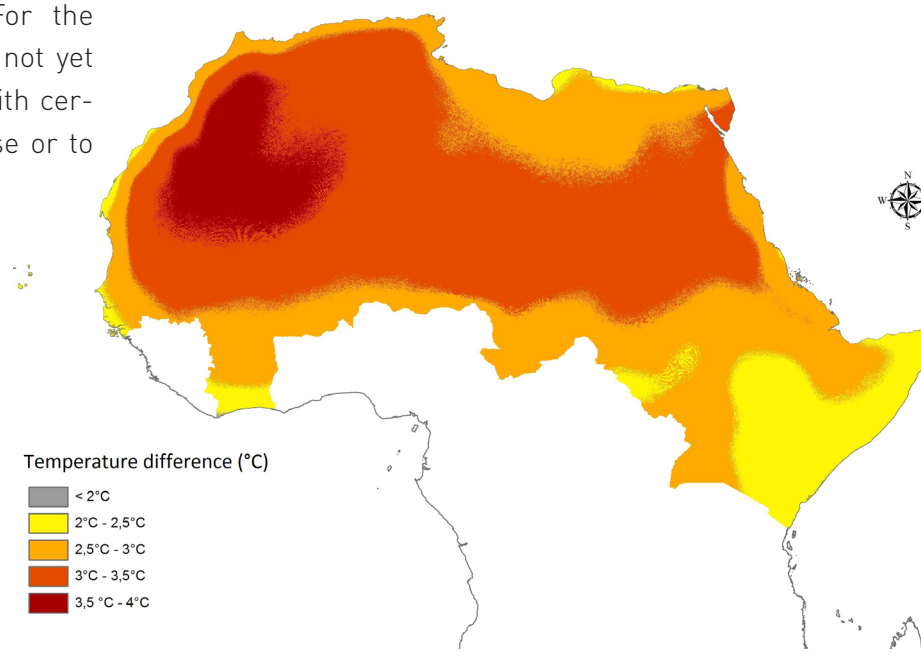
CLIMATE CHANGE PROJECTIONS IN THE SAHARA AND SAHEL REGION

Evidences for global warming related to climate change and affecting parts of Africa have become conclusive. Analyses of temperature per decade show a clear trend towards increased climate warming across the continent over the last 50 to 100 years (IPCC 2014).

Projections concerning precipitations show a decrease in North Africa and a significant decrease of rainfall quantity in the extreme west of the Sahel.

For East Africa, the evidence is less clear, however, most of the models show an increase in annual precipitations. For the region around Lake Chad, data are not yet sufficiently available to determine with certainty if precipitations are to increase or to decrease.

Difference in average temperatures between (1950 - 2000) and the 2080 projection by RCP6 scenario

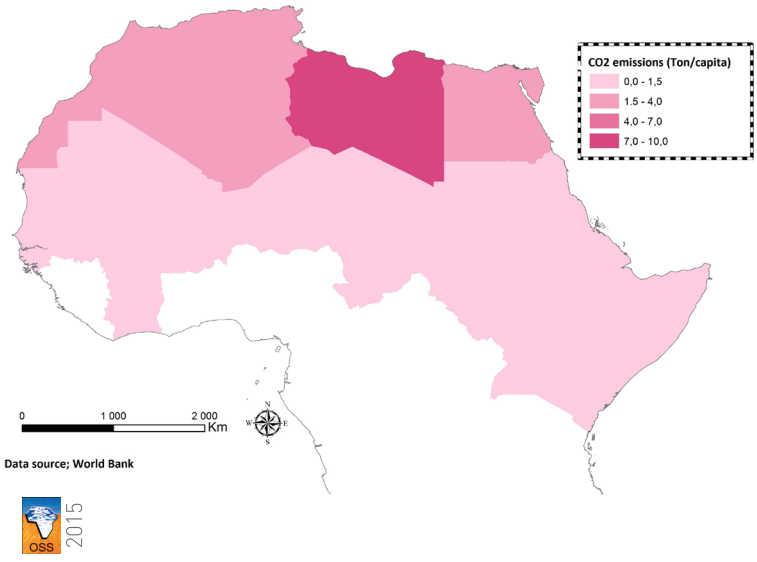


Data source : CGIAR

OSS 2015

AFRICA, THE SMALLEST EMITTER OF GREENHOUSE GASES IN THE WORLD

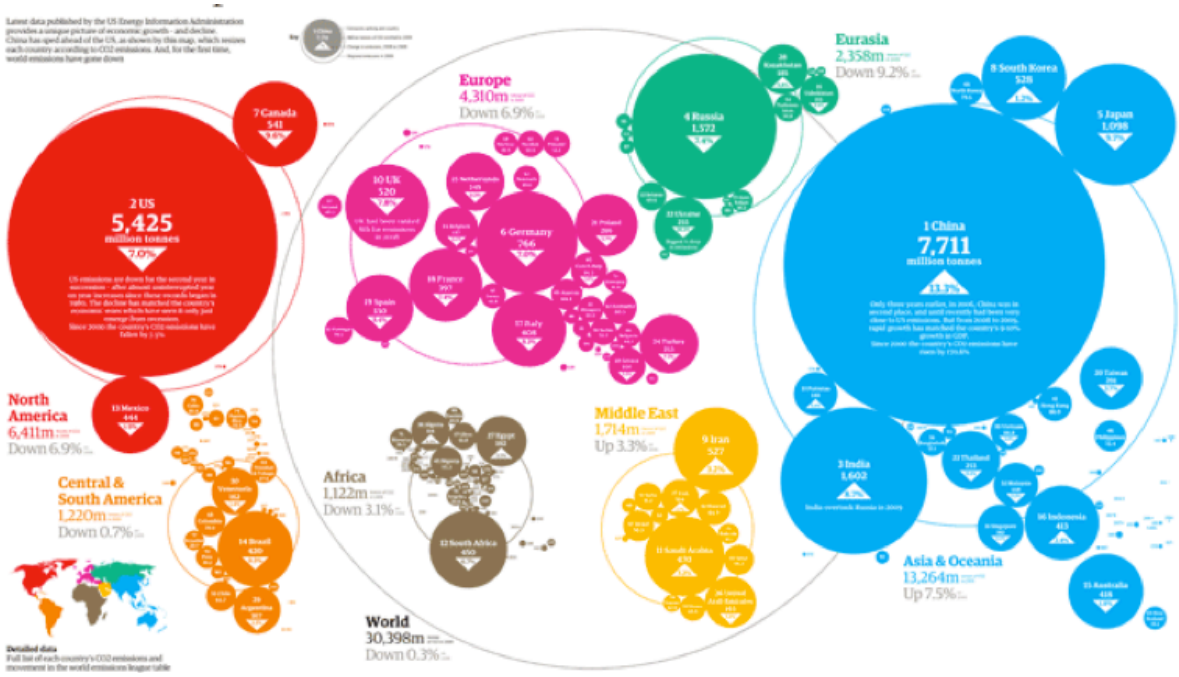
CO2 emissions per capita in OSS action region



In Africa, the production of greenhouse gas (GHG) in the atmosphere is insignificant compared to global emissions as the continent accounts for only about 3,8 % of total global GHG emissions (World Bank's Study, June –2013), with the Sahel countries accounting for an average coefficient of only 0,3%, expressed by tons of CO2/capita. Th average emission of CO2 per person is as insignificant as 1,1 for the African continent (1,1 tCO2 capita), which is very low compared to the World's average (5 tCO2/capita). This justifies the high importance accorded by these countries to climate Change adaptation policies.

In 2010, the population of the action zone of OSS , estimated at **484 million**, was responsible for 0,5 billion tons of CO2 only, which represents **1,65 %** of the world's emissions (OSS, 2015) evaluated at 31 billion tons of CO2 in 2015.

CO2 emissions in the world by continent

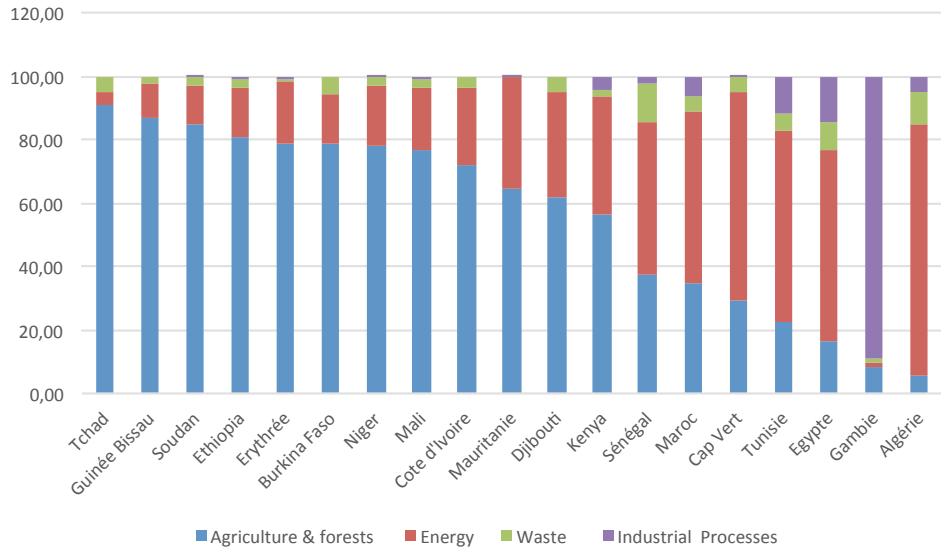


Source : The Guardian

The analysis of GHG emission inventories reveals the importance of the agriculture/forestry sector, which represents the sector emitting most of GHG, accounting for 70% to 80% of total emissions.

Hence, mitigation actions in these countries should focus on the agriculture and forestry sector.

Distribution of CO2 emissions by sector and by countries in the OSS area



Data Source : *CCNUCC*

Land Use and Land-Use Change and Forestry (LULUCF) constitute the main source of GHG emission in Africa.

Soil and plants conserve three times the volume of carbon present in the atmosphere.

The degradation of such important carbon sinks turns them into the major sources for GHG emission.

The particularity of agriculture is that it represents at the same time a source of (emission or "destocking") and a sink for (absorption or storage) GHG.

AFRICA AND THE OSS ZONE OF ACTION, PROVIDE A STRONG POTENTIAL FOR GHG ABSORPTION

Arable lands currently conserve 316 billion tons of CO2 (Henry, Valentino & Bernoux 2009).

Two thirds of cultivated lands, rangelands, and woodlands of Sub-Sahara Africa are already degraded thereby and emit significant volumes of carbon (Pender et collab. 2009).

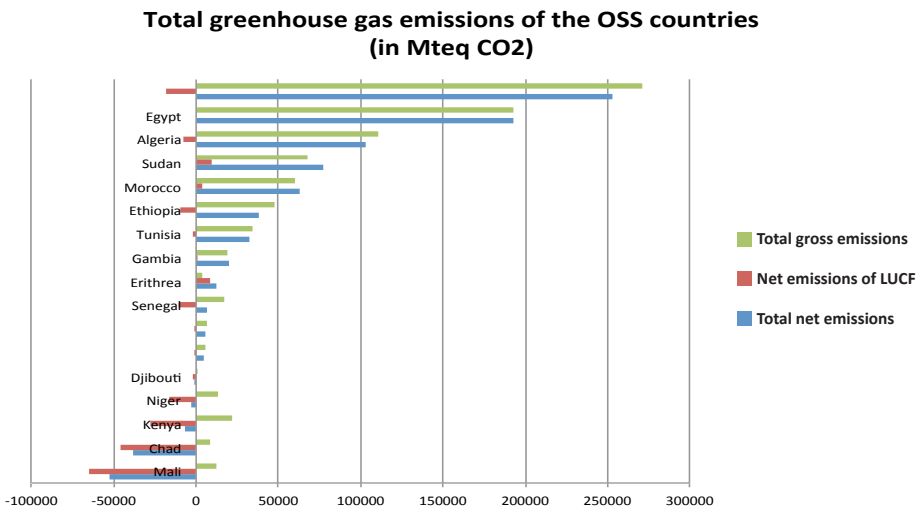
By investing in sustainable land management techniques, farmers could reduce greenhouse gas emissions, increase carbon sequestration and maintain carbon stocks in soil at a relatively modest cost, while at the same time improving food production and livelihoods.

The fight against climate change and the adaptation of communities to its impacts represent an opportunity for a change of direction towards more sustainable investments and management choices that can contribute to improved livelihoods among dry-land communities and at the same time increase carbon sequestration in soil.

High stocks of carbon : about 60% of carbon contained in soil is found in arid and desert zones (UNCCD 2009).

Certain countries, such as Chad, Benin and Niger provide sinks that absorb more carbon than they emit, since they have a significant potential for carbon sequestration as illustrated in the diagram below (UNFCCC GHG emission profiles for non-Annex I Parties).

Emissions per country (NR)



Data Source : CCNUCC

OSS ZONE OF ACTION, A HIGHLY VULNERABLE ZONE TO CLIMATE CHANGE

How to define Vulnerability to Climate Change ?

It is the « the degree to which a system is susceptible to, and unable to cope with, adverse impacts of climate change » (IPCC).

Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.

The notions of vulnerability and risks are central to the concept of adaptation.

Analyzing the degree of vulnerability allows identifying hot spots on a given territory where urgent management measures need to be undertaken to ensure adaptation to climate change.

Vulnerability Assessment : two types of approaches

- «Top-down» approach: it aims to predict as accurately as possible climate evolutions and their impacts in a given region in order to adjust actions and measures to new climate conditions
- «Bottom-up» approach: it accepts uncertainties on future evolution of hydro-climatic conditions and is based on an analysis of a territory's sensitivity to climate change.

Index on human exposure to risks from climate change

In line with the first approach, the United Nations University Institute for Environment and Human Security (UNU-EHS) and the Development Works Alliance have set up an index on human exposure to risks from climate change (World Risk Index, WRI), developed based on the four following factors :

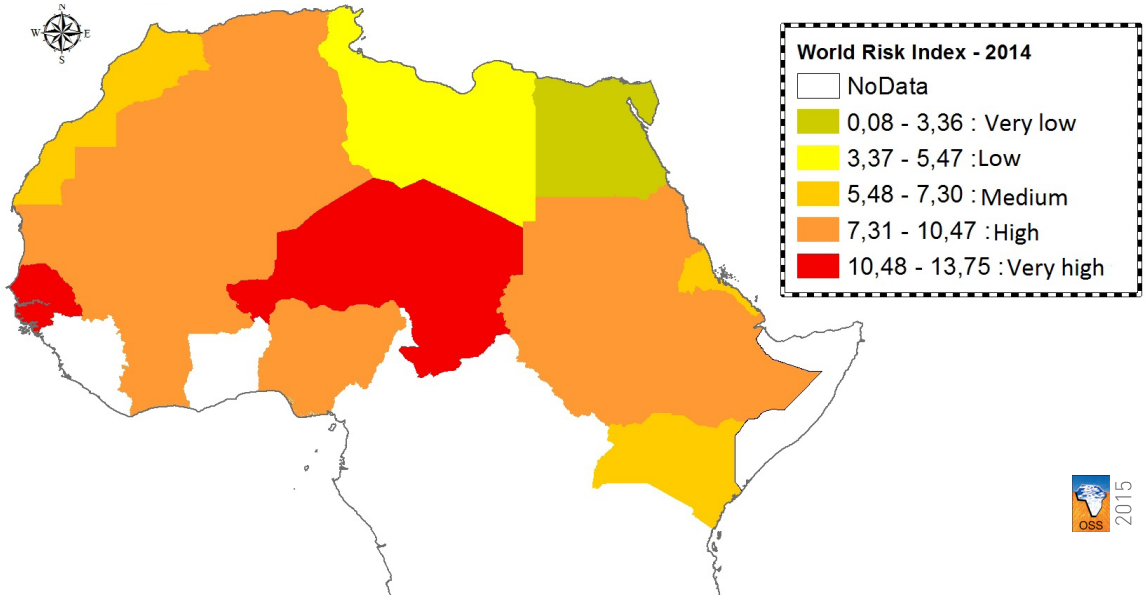
- **Exposure** to a natural factor, such as an earthquake, a cyclone, floods, droughts, the rise of sea level. It concerns climate variations to which a system is exposed;
- **Sensitivity** the degree to which a given community or ecosystem is affected by natural disasters (economy food, households, and other infrastructures, etc.);
- **Capacity** to adapt taking account of the type of governance, the degree of anticipation of warning systems, medical services and level of social and material security;
- **Adaptation capacity and strategies** to cope with the impacts of natural hazards and climate change.

The Circum-Sahara region has a limited capacity in addressing climate change-related risks and in developing and setting up adaptation strategies

Climate-change related phenomena, combined with the expected effects of population growth, will seriously affect the ecological balance and will lead to the degradation of natural resources and biodiversity and to a reduced agricultural production.

The extreme vulnerability of the Circum-Sahara region is related mainly to the high dependence of its population on rain-fed agriculture and transhumance systems and their low adaptive capacity. In fact agriculture employs more than 70 % of the region's active population and contributes to 40% of the gross domestic product.

Degree of vulnerability to climate change

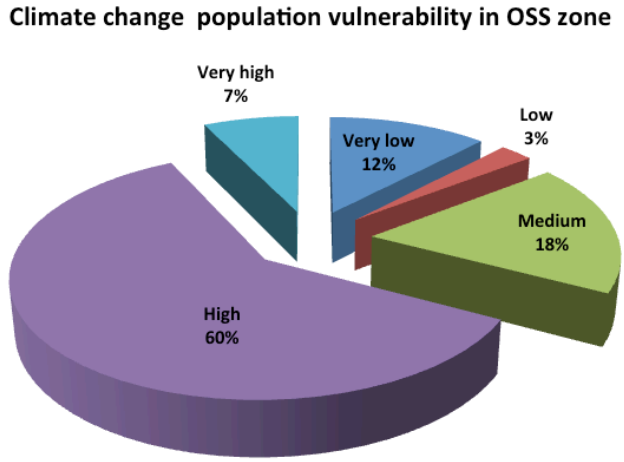


Source : ONU University (World Risk Report 2014)

Forecasting approaches are also recommended to define orientations to integrate in territorial policies or users practices.

Figure 10 illustrates the breakdown of the vulnerability of the population to climate change in the OSS zone of action.

The vulnerability of the population in the OSS zone of action to climate change



Source : OSS, 2015

OSS ZONE OF ACTION, SIGNIFICANT YET INADEQUATE ADAPTATION EFFORTS

Adaptation to climate change is a complex and multi-level issue (continental to local level) and requires good governance (sub-regional institutions, governments, decentralized structures, civil society, and population). Adaptation is also essential for development and should thus be integrated at the level of the different ministries and also include various other stakeholders (private sector, associations and non-governmental organizations, etc.). The definition of adaptation strategies requires a prior understanding of not only the potential impacts on natural resources and their use, but also an analysis of the factors of territories vulnerability. An adaptive strategy should be flexible and reversible in order to better manage uncertainty and to minimize the risks and the costs of no-action.

Lessons learned from adaptation measures undertaken or expected in the OSS zone of action

In order to promote the exchange of experiences and good practices among its member countries, OSS conducted an inventory of climate change adaptation measures undertaken or expected in the region.

Results of the adaptation measures inventory

- The most vulnerable sectors to climate change are agriculture, tourism, water resources, coastal zones, energy, etc. ....
- Adaptation approaches were adopted to anticipate and limit potential damage and determine expected benefits.
- Adaptation experiences in Africa provide lessons learned and successful examples of how to strengthen and promote adaptation measures, which can be replicated and mainstreamed at large scale, particularly by setting up best practice principles and promoting integrated approaches.

Five common principles for adaptation and for the creation of adaptive capacity (IPCC 5)

- supporting **autonomous adaptation** through a policy that recognizes the multiple-stressor nature of vulnerable livelihoods;
- increasing attention to the **cultural, ethical, and rights considerations** of adaptation by increasing the participation of women, youth, and poor and vulnerable people in adaptation policy and implementation;
- combining **"soft path"** options and flexible and iterative learning approaches with technological and infrastructural approaches and blending scientific, local, and indigenous knowledge when developing adaptation strategies;
- focusing on building **resilience and implementing low-regrets** adaptation with development synergies, in the face of future climate and socioeconomic uncertainties; and
- building **adaptive management** and social and institutional learning into adaptation processes at all levels. Encourage an autonomous adaptation through a policy identifying the nature of vulnerable livelihoods;
- Increase the interest in cultural, ethical and legal aspects of adaptation by strengthening

Factors hindering the coordination of adaptation initiatives

Several factors lead to the current situation where existing local and national institutional frameworks are not yet advanced enough to enable an efficient coordination of the numerous adaptation initiatives implemented in an isolated manner. The inadequate knowledge of the local impacts of climate change and the uncertainties concerning the probability of the different climate projections are considered by decision-makers as major obstacles to action.

The challenge faced by institutional actors is therefore not only to adapt to a certain type of change, but rather to adapt, at the same time, to the uncertainty of the previsions of that change, by focusing on limiting irreversible choices.

COMMITMENTS OF THE COUNTRIES OF THE OSS ZONE OF ACTION IN COMBATTING CLIMATE WARMING

At the 20th the Conference of the Parties (COP 20) held in Lima in December 2014, international negotiators decided that within the framework of a new international climate agreement all countries must commit to reducing greenhouse gas emissions. They also expressed their wish to see a larger number of countries contributing to the effort to reducing GHG global emissions.

Accordingly, the Sahara and Sahel Observatory's member countries participating in climate negotiations have presented their intended nationally determined contributions (INDCs) to the Conference of the Parties which took place in December 2015.

States provided ambitious plans for reducing GHG emissions, but most of the African countries stated that the implementation of those ambitious plans will depend on the availability of financial support , notably via the Green Climate Fund.

Countries of the OSS zone of action contribute to 1,3 % of global GHG emissions (OSS, 2015).

Algeria : 0,40% of global GHG emissions	Reduce emissions by 7 to 22% by 2030, according to a Business AS Usual-BAU scenario, depending on support in terms of external funding, development, technological transfer and capacity building. The 7% reduction of GHG emission will be achieved using national means and tools. GHG targeted: CO2, CH4 et N2O. Sectors: energy, industrial processes, agriculture and wastes. Land and forests use is taken into account to achieve the desired objective. Recourse to international carbon markets is not evoked.
Burkina Faso : 0,004% of global GHG emissions	Reduce emissions by 5,58% by 2020, 6,27% by 2025 and 6,60% by 2030, according to a Business AS Usual – BAU scenario. The investment cost, according to an unconditional commitment, is estimated at 1 billion US$. The main objective will be to reduce emissions by 11,9% by 2020, 11,2% by 2025 and 11,6% by 2030 if an international support estimated at 0.76 billion US$ would be available. GES targeted : CO2, CH4 and N2O. Approach: per sectoral project. Land and forests use is taken into account in order to achieve the desired objective. Recourse to international carbon markets by countries is envisaged.
Cape Verde : 0,0008% of global GHG emissions	Propose a series of sectorial measures (notably for energy, agriculture, forests and land use) by 2025 and 2030, if a financial support estimated at 1 billion € would be available notably through electricity supply to come 100% from renewable energy by 2025. GHG targeted : CO2, CH4 and N2O. Energy, agriculture, forest and land use. Land and forests use is taken into account to achieve the desired objective. Recourse to international carbon markets is envisaged.
Chad : 0,01% of global GHG emissions	Reduce emissions by 18,2% by 2030, according to Business AS Usual – BAU scenario. The objective is to reach 71% of emissions reduction contingent on technical and financial support. 92% of the cost depends on a conditioned commitment estimated at around 6,5 billion US$ of a total around 7,2 billion US$. GHG targeted : CO2, CH4 and N2O. Land and forest use is taken into account to achieve the desired objective. Recourse to international carbon market is envisaged.

Djibouti : 0,0012% of global GHG emissions	Reduce emissions by 20% by 2020 and 40% by 2030, according to a Business AS Usual – BAU scenario. The objective would be to achieve a reduction by 60%, if additional financial resources, estimated at more than 5,5 billion US$ would be available (Green Fund, among others) GHG targeted : CO2, CH4 and N2O all sectors included. Land and forests use is not taken into account to achieve the desired objective Djibouti looking forward to benefiting from climate finance.
Egypt : 0,63% of global GHG emissions	Propose a series of sectorial measures (mainly energy, agriculture, wastes, industry, hydrocarbon) by 2020 and 2030, if a financial support estimated at 73 billion US$ would be available. GHG targeted : (CO2, CH4 and N2O). Energy, transportation, industry.
Eritrea : 0,01% of global GHG emissions	Reduce emissions by 23.1% by 2020, 39,2% by 2025 and 39,2 % by 2030, according to a Business AS Usual – BAU scenario. The objective is to cut emissions by 80,6%, if international financial support would be available. GHG targeted : CO2, CH4 and N2O. All sectors included. Land and forests use is not taken into account to achieve the desired objective. International carbon markets are not evoked.
Ethiopia : 0,24% of global GHG emissions	Reduce emissions by 64% by 2030 according to a Business AS Usual - BAU scenario contingent on an ambitious multilateral agreement. It aims at carbon neutrality on the long term. The total cost of emissions reduction is estimated at about 0.9 billion US$ All types of GHG (CO2, CH4 and N2O) except fluorinated gases (HFCs, PFCs, SF6 and NF3and all sectors. Land and forests use is taken into account to achieve the desired objective. Ethiopia envisages selling carbon credits at international markets.
Ivory Coast : 0,07% of global GHG emissions	Reduce emissions by 28% by 2030, according to a Business AS Usual - BAU (2012) scenario. Mitigation cost is estimated at 18 billion € GHG targeted : CO2, CH4 and N2O. Energy, agriculture, forest and land management, and wastes. Land and forest use is taken into account to achieve the desired objective. Recourse to international carbon market is envisaged.
Guinea-Bissau : 0,0005% of global GHG emissions	Considers its forest as carbon sinks and is committed to a policy aiming at reforesting degraded zones by 2020-2030 if financial support would be available. GHG targeted : CO2, CH4 and NOX. Land and forests use is taken into account to achieve the desired objective. International carbon markets are not evoked.
Kenya : 0,24% of global GHG emissions	Reduce emissions by 30% by 2030 according to a Business AS Usual – BAU scenario, contingent on a financial support estimated at 40 billion US$ including adaptation actions. GHG targeted : CO2, CH4 and N2O Land and forests use is taken into account. Does not decide on recourse to international carbon markets.

Mali : 0,001% of global GHG emissions	Propose a series of sectorial measures (mainly energy, agriculture and soil management) by 2030, contingent on financial and technical support. 88% of the cost depends on an international support estimated at about 35 billion US$, of about 40 billion US$. GHG targeted : (CO2, CH4 and N2O). Energy, agriculture and soil management. Land and forest use is taken into account to achieve the desired objective. International carbon markets are not evoked.
Morocco : 0,15% of global GHG emissions	Reduce emissions unconditionally by 13% by 2030 according to a Business AS Usual – BAU scenario. A commitment that may involve a reduction of 32% provided a binding global agreement and an international financing. 78% of the cost is contingent upon an international support estimated at about 35 billion US$ thanks to the Green Climate Fund, of a total estimated at 45 billion US$. All types of GHG (CO2, CH4 and N2O) except for fluorinated gases (HFCs, PFCs, SF6 and NF3) and all sectors. Land and forests use is taken into account to achieve the desired objective. Recourse to international markets is not excluded.
Mauritania : 0,005% of global GHG emissions	Reduce emissions by 22,3% by 2030, according to a Business AS Usual – BAU scenario. 88% of the cost is contingent on an international support estimated at about 8,2 billion US$, a total of about 9,3 billion US$. GHG targeted : CO2, CH4 and N2O. All sectors. Land and forests use is taken into account to achieve the desired objective. International carbon markets are not evoked.
Niger : 0,003% of global GHG emissions	Reduce emissions by 2,5% by 2025 and 3,5% by 2030, according to a Business AS Usual – BAU scenario. The main objective would be a reduction of 25% to 34,6%, contingent on technical and financial support. 88% of the cost depends on a financial support estimated at about 7 billion US$. GHG targeted : (CO2, CH4 and N2O). Energy, agriculture and land management. Land and forests use is taken into account to achieve the desired objective (89% of total GHG emissions). Recourse to international market is envisaged.
Uganda : 0,099% of global GHG emissions	Reduce GHG emissions by 22% by 2030, according to a Business AS Usual – BAU scenario. GHG targeted : (CO2, CH4 and N2O) Energy, forest and humid zone. The complete implementation of these actions is contingent upon the support of international community with a total cost not estimated yet, except for cost of renewable energies installation estimated at 5,4 billion US$. Recourse to international market is not excluded.

Senegal : 0,05% of global GHG emissions	An unconditional reduction of 3%, 4% and 5% respectively for 2020, 2025 et 2030. An expected conditional reduction of 7%, 15% and 21% would also concern the same years. 74% of the cost depends on an international support estimated at about 5 billion US$, a total of about 6,8 billion US$. GHG targeted: CO2, CH4 and N2O. Includes energy, agriculture, wastes and industry. Does not take into account land use. Recourse to international carbon market is envisaged.
Somalia : 0,0014% of global GHG emissions	Propose a series of sectorial measures (related mainly to energy), contingent on financial and technological support. GHG considered: not specified. Target sector: Energy takes into account forest and land use International carbon markets are not evoked.
Sudan : 0,43% of global GHG emissions	Propose a series of sectorial measures (mainly energy, wastes, forest) by 2025 and 2030, according to a Business AS Usual – BAU scenario, contingent on a financial support estimated at 5,7 billion US$. Aims at 20% of renewable energy by 2030. GHG targeted : CO2, CH4 and N2O. Recourse to an international market mechanism is not excluded.
The Gambia : 0,001% of global GHG emissions	Reduce emissions by 45,4% 2030 according to a scenario not including land use, if financial and technical support would be available. All types of GHG (CO2, CH4 et N2O) except for fluorinated gases (HFCs, PFCs, SF6 et NF3). Energy and land management. Land and forests use is taken into account to achieve the desired objective. Recourse to international carbon market is envisaged.
Tunisia : 0,08% of global GHG emissions	Reduce of GHG emissions to 13% by 2030, according to a Business AS Usual – BAU scenario. The objective is to achieve 41% of emissions reduction contingent on financial support. 90% of the cost depends on a conditioned commitment estimated at about 15,8 billion US$, the total cost would be about 17,5 billion US$. GHG targeted : CO2, CH4 and N2O. All sectors. Land and forest use is taken into account in order to achieve the desired objective. Recourse to international carbon markets is envisaged.

ACCESS TO CLIMATE FINANCE REMAINS ACRUCIAL CHALLENGE FOR AFRICA

According to the UNEP Adaptation Gap Report the assessing the gap between adaptation needs and prospects, the cost of adapting to climate change for Africa is estimated between 7 and 15 billion dollar per year.

Funds needed to adapt to climate change are comprised between 10 and 20 billion dollar, however, Africa receives only 50 to 100 million US $ (Panel on Progress in Africa, 2010).

In their INDCs, 17 out of 22 countries of the OSS zone of action presented their estimations of financial support needed to reduce GHG emissions by 2030, summing up to a total cost of an estimated 285 billion US $, while the international support pledged for is about 203 billion US $ (i.e. 71%).

During the 15th the Conference of the Parties (COP15, Copenhagen 2009), developed countries confirmed their commitment to mobilize 100 billion dollar per year by 2020 and has actually started the process by releasing 30 billion dollar between 2010 and 2012. For Africa, the mobilization of these funds is as important as the capacity to getting access to them. Until today, the access of African countries to the Green Climate Fund as well as to the Adaptation Fund remains limited.

The Sahara and Sahel Observatory (OSS), an accredited regional implementing entity of the Adaptation Fund, hopes to join in the near future the entities accredited by the Green Climate Fund (GCF). This will provide the Organization with additional climate funds to implement projects with its member countries to increase their resilience to climate change.

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The Sahara and Sahel Observatory (OSS) is an international intergovernmental organization created in 1992 and based in Tunis (Tunisia).

It operates in the fields of environmental monitoring and natural resources management in the African Sahara and Sahel region.

Main issues addressed by OSS include the major challenges faced by the region, namely land degradation, desertification, droughts and impacts of climate change on ecosystems and populations.

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