Climate change: international actions for water and food

1. The context

The route of Climate Change

The response of the international community to the climate change is operated by the **United Nations** through.

- *The Framework Convention on the Climate Change* aim at stabilizing the atmosphere concentrations of greenhouse gases at the levels such to prevent dangerous human interferences with the climate system.
- *The Conference of the Parties* **(COP**): The organism that has the assignment to secure the correct implementation of the convention through protocols or other instruments.

The main steps of the agenda :

- **Kyoto Protocol. In 1997** with the adoption of this first protocol, with the exclusion of the United States
- **Conference of Bali**(2007) Actions are focus on the definition of methodologies, and procedures of implementing the Kyoto Protocol.
- **COP15 Copenhagen (2009**) The objective to define a new agreement, coordinating and binding the states, was not reached;
- **Cancun, Durban and Doha** : during these meting every decision is deferred at the meeting in Warsaw

The route of Climate Change

- **COP19-Varsavia (2013) :** *Major Achievement*

  > the establishment of a "Framework for REDD : the creation of a mechanism, even if it is financial, to tackle deforestation and forest degradation in developing countries.

  > The launch of the ‘‘International mechanism of Warsaw for the losses and climate damages’’ (loss and damage) associated with risk reduction strategies (principle of the damage limitations)

  > The path toward a ‘‘Protocol or other legal instrument’’ to be adopted in Paris in 2015.

  > Recognition of the role of cities and sub-national authorities

  > Adoption of the operational decision of the Green Climate Fund,

- **New York- 23 September 2014 UN Conference**

  > Secretary General in the Summit of Heads of State strongly denounced that "climate change is the biggest collective challenge that humanity faces today", and set in motion actions to relaunch negotiations in preparation for COP21 in Paris.

- **COP20-LIMA (1-15 December 2014**)

  The nodes that are addressed in Lima linked to four pillars of Warsaw

  > Commitment to quantify reductions by Governments before 2020 and after

  > Quantification of loans and transfers to the Fund

  > Methods of quantification of damages and losses

  > Setting the text columns for a Convention

The route of Climate Change

- **COP21- PARIS** (December 2015) and aims is :

  > give rise to a new Treaty of the most compelling respect Kyoto

  > adopt reduction targets, not open to negotiations, but offered as commitments by individual countries (bottom-up) with subscription of bonds and a system to monitor the commitments made.

  > enforced in the 2015 Treaty for the ‘‘post-2020’’ period.

  > make available resources of individual countries to launch the Green Climate Fund

The critical issues to be overcome in the preparation of COP 21

- The distances between the countries involved
- The crisis of governance and effectiveness compared to the maintenance of the commitments
- The need to overcome the logic of the Kyoto Protocol
- The positions of the parties remain diversified: the United States and especially the BRICS

Climate change
2° impact and consequence

Seminar Varsavia. CICMA
R.Lembo

The impact of climate change

The commitments under the Kyoto Protocol not maintained

- ✓ developed countries should reduce their emissions by 5.2% compared to 1990.

The situation before COP 21 of Paris

- ✓ The emissions have increased with an increase of 30%

The proposal of fifth report of the IPCC 2014

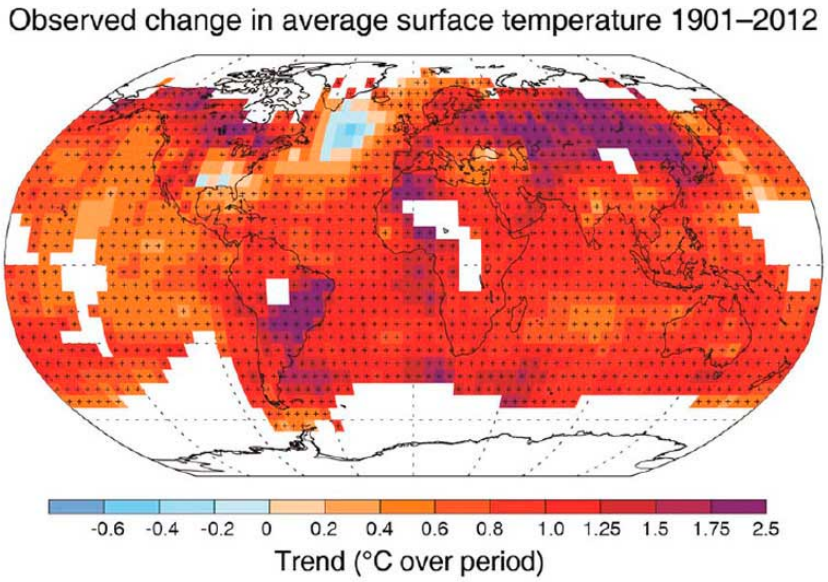
- ✓ global emissions of greenhouse gases must now be reduced from 40 to 70% by 2050 and disappear permanently from 2100 .

CLIMATE CHANGE

The impact of climate change

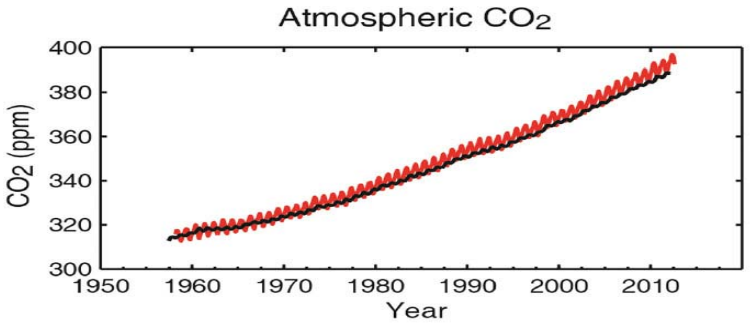
1° Variations in average surface temperature - 1901-2012

The red areas on the planet are those where the surface temperature of the Earth, given in degrees Celsius, has increased
The white areas are those for which the data of the period considered insufficient



2° Atmospheric carbon dioxide

The carbon factor is the main cause of the increase in global temperatures
This graph shows the increase of the atmospheric concentration of carbon dioxide (indicated in parts per million)

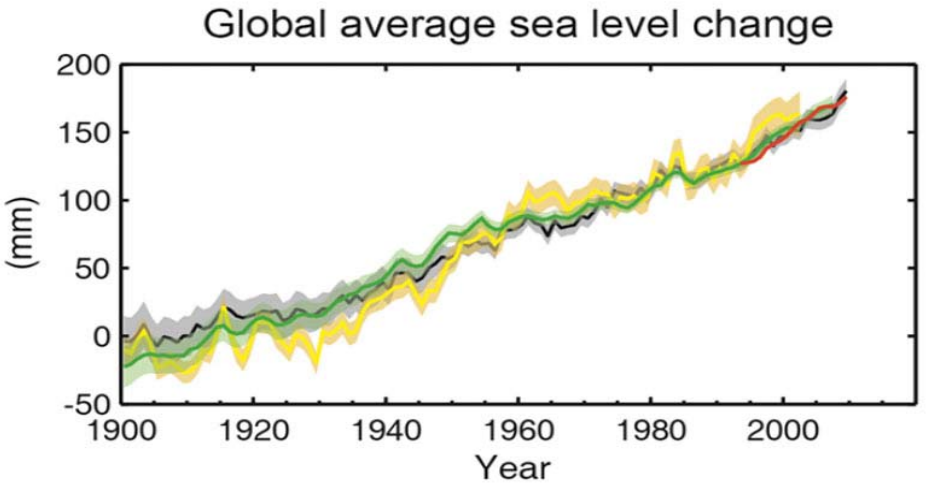


CLIMATE CHANGE

The impact of climate change

3° Change in global average sea level

The seas are raised: the level of the oceans is undergoing an increase due to several factors, but mainly for the expansion of the volume of water due to its heating (lifting indicated in millimeters)



The main effects of climate change

- ***Asia***

- Sea levels have been rising faster than the previous 2000 years
- Changes in precipitation and the melting glaciers are altering the freshwater systems, undermining the quantity and quality of water available.
- The countries and islands are subject to floods with strong impacts on settlements and infrastructure, deterioration of human health, shortage of food and water.

- ***Central America***

- The Economic Commission for Latin America and the Caribbean (ECLAC) estimate that in 2012 if global warming continues at the current pace, the negative impacts on agricultural production would lead to a loss of nearly 19 percent of GDP in Central America and that precipitation in the region would decline by at least 11% by 2100.

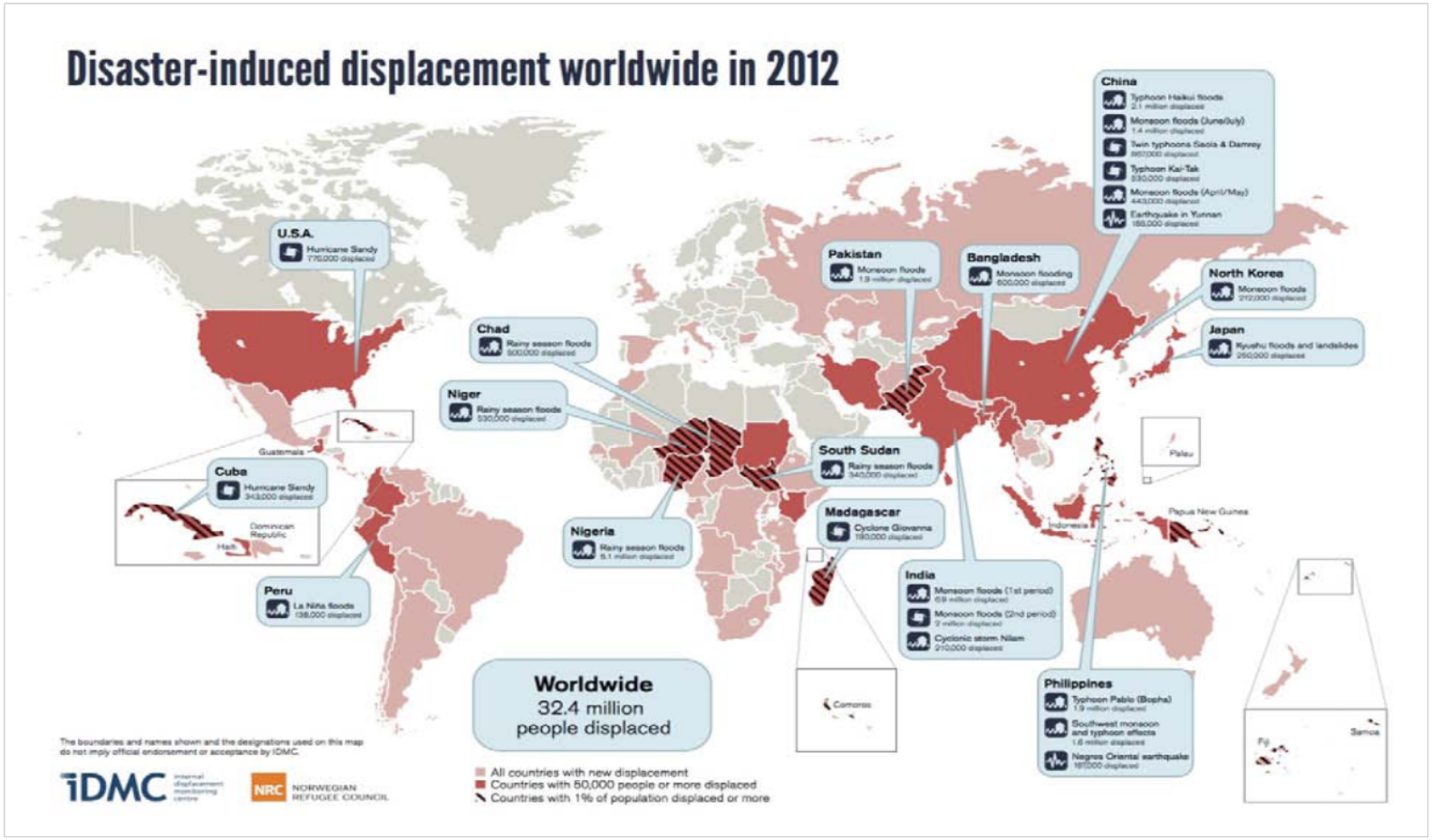
- ***South America***

Peru. Studies show that the water reserves, that is the glaciers of the Andes, have been reduced in the last 30 years from 30 to 50%

Brazil. *The destruction of at least 42 billion trees, about 2000 trees per minute for at least 40 years of the Amazon, is determining the following climate effects:*

- *The loss of 20 billion tons of water every day (about of 20.000 billion of liters).*
- *San Paolo suffered the worst water crisis in 80 years now, and the metropolis in the remained without water for over a month.*

Major disasters and displacement caused by climate change

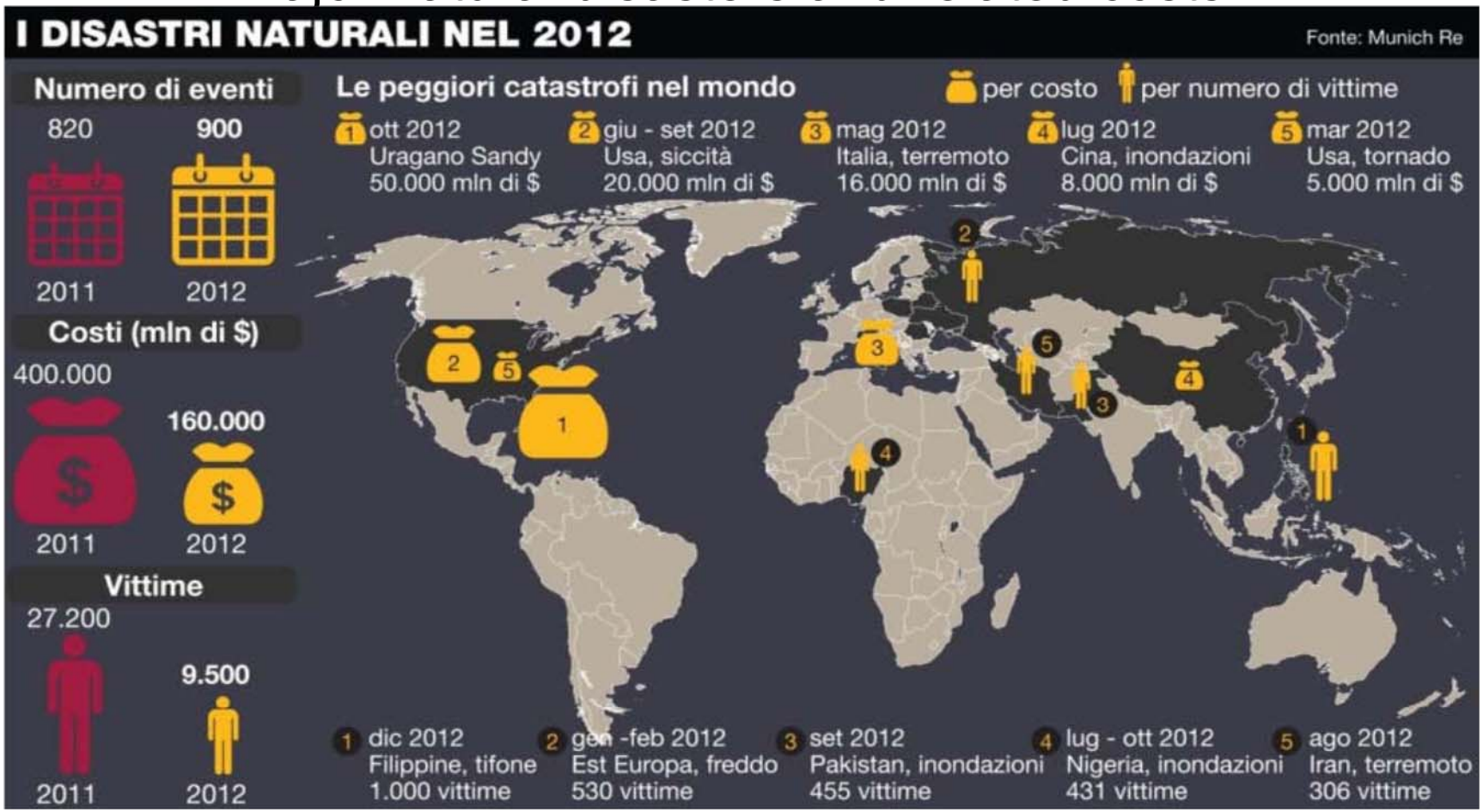


- In 2012, there have been 310 natural disasters which led to 9.330 deaths, 106 billion people affected and an economic damage amounting to 138 billion of $. *Centre for Research on the Epidemiology of Disasters*

- in 2012 32,4 million people were forced to abandoned their homes due to natural disasters. (environmental refugees) (*Displacement Monitoring Centre May 2013*)

CLIMATE CHANGE

Major natural disasters and related costs



High temperatures are causing the greatest numbers of deaths in Europe: another 70 thousand deaths in 2003. Storms and floods were rather the most expensive disasters: 52 billion euros for the flooding and 44 billion for the storms. The earthquakes have caused, in fact, 18 thousand victims and losses amounting to 29 billion euros.

CLIMATE CHANGE

The main effects of climate change in Europe

- ***Europa***

- ***Italy*** The flooding of rivers that have hit several regions in 2014 are known (Veneto, Liguria, Lombardy, and Emilia Romagna*)*

- ***Other European countries*** *have been affected by similar phenomena.*

  - According to a report by the European environmental agency (Eea), on 33 countries (not only those of the EU) only 21 have a strategy of adaptation and 17, especially in North and Central Europe, have also a national plan.

  - In the Black sea, Mediterranean, Baltic, in the north east Atlantic Ocean and Arctic, it is observed the degradation of marine and costal ecosystems cause by fishing, agriculture, and industrial use of chemicals.

  - Over the past 150 years, the average temperature has increased by almost 0,8°C globally and by about 1°C in Europe.

  - Eleven of the last twelve years (1995-2006) are among the 12 warmest years since 1850.

The main effects of climate change

2010 Danubio pollution

Petrol impact

Philippine Flodding

The effects of climate change in Poland

Poland – Central of Belchatow
About 20 % of national electric energy was produced burning lignite

COP 19 Warsaw in November 2013.
The proposal to build an ad hoc group on *agriculture* is rejected by China, Brazil and others for the simple fact that had not been previously agreed
The proposal to reduce carbon use was rejected

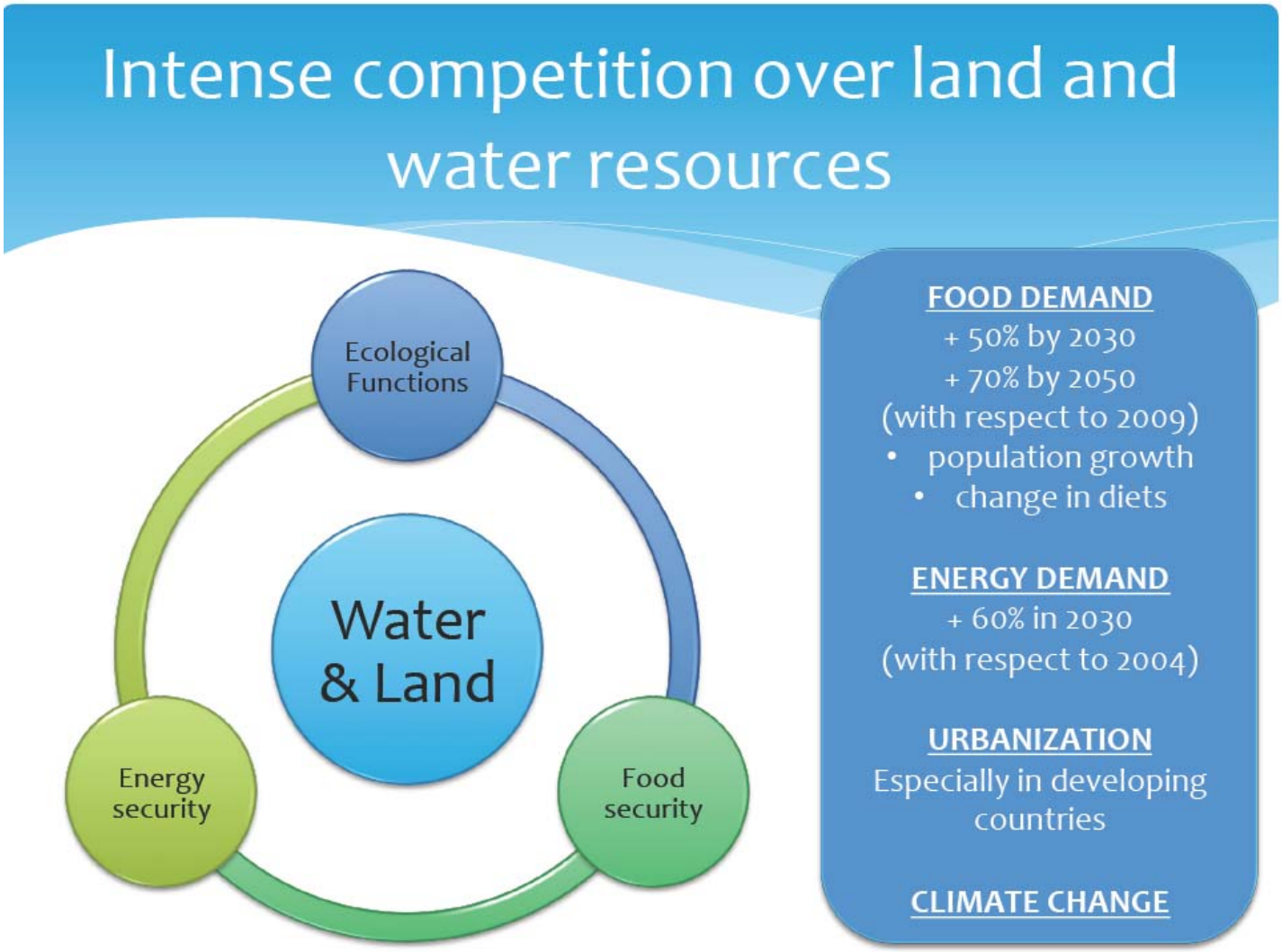
The effects of climate change in Poland

The city of **Wroclaw** in sout hwestern Poland (July 1997) On a wall of a building in the city of Wroclaw, there is still a small metal plaque affixed seventy centimeters above the ground that reads: July 13 1997, which is the water level during the flood of the river Odra.

May 2010. The floods that affect Poland have caused the disappearances of 10 people in Warsaw, where the level of the Vistula reaches over 8 meters of the embankments. Waters are contaminated.

CLIMATE CHANGE

Water and Land grabbing

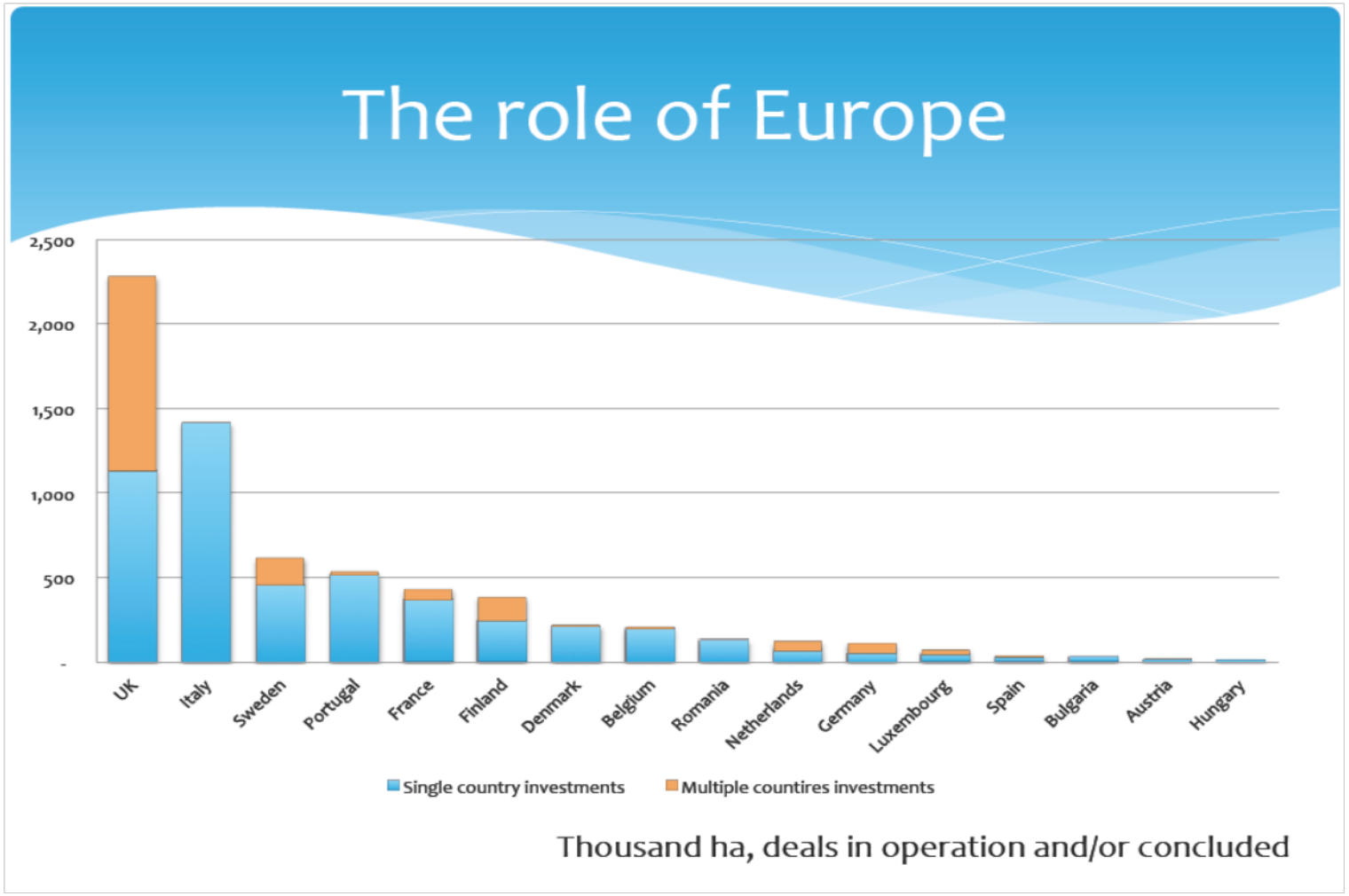


Climate change impact on agricolture

From the data provided by several research centers as Land Matrix about Land Grabbing, shows that

- the current estimate of acres "hogged" hovers around the 32 million and that the top 10 countries on which target arrangements have been made for the acquisition of lands 7 are Africans, 2 are in Southeast Asia and one in Latin America.
- the production of food and foodstuffs also for energy such as bio fuels, is estimated to have caused the race to land between 2005 and 2009 to more than 32 million hectares and is often thought that these lands
- the amount of surface water or groundwater present and potentially exploitable.
- in many cases, in fact, has been documented as the presence of aquifers has strongly influenced the processes of hoarding of the earth for the purpose of production of food

The role of the European countries in the process of land and water grabbing

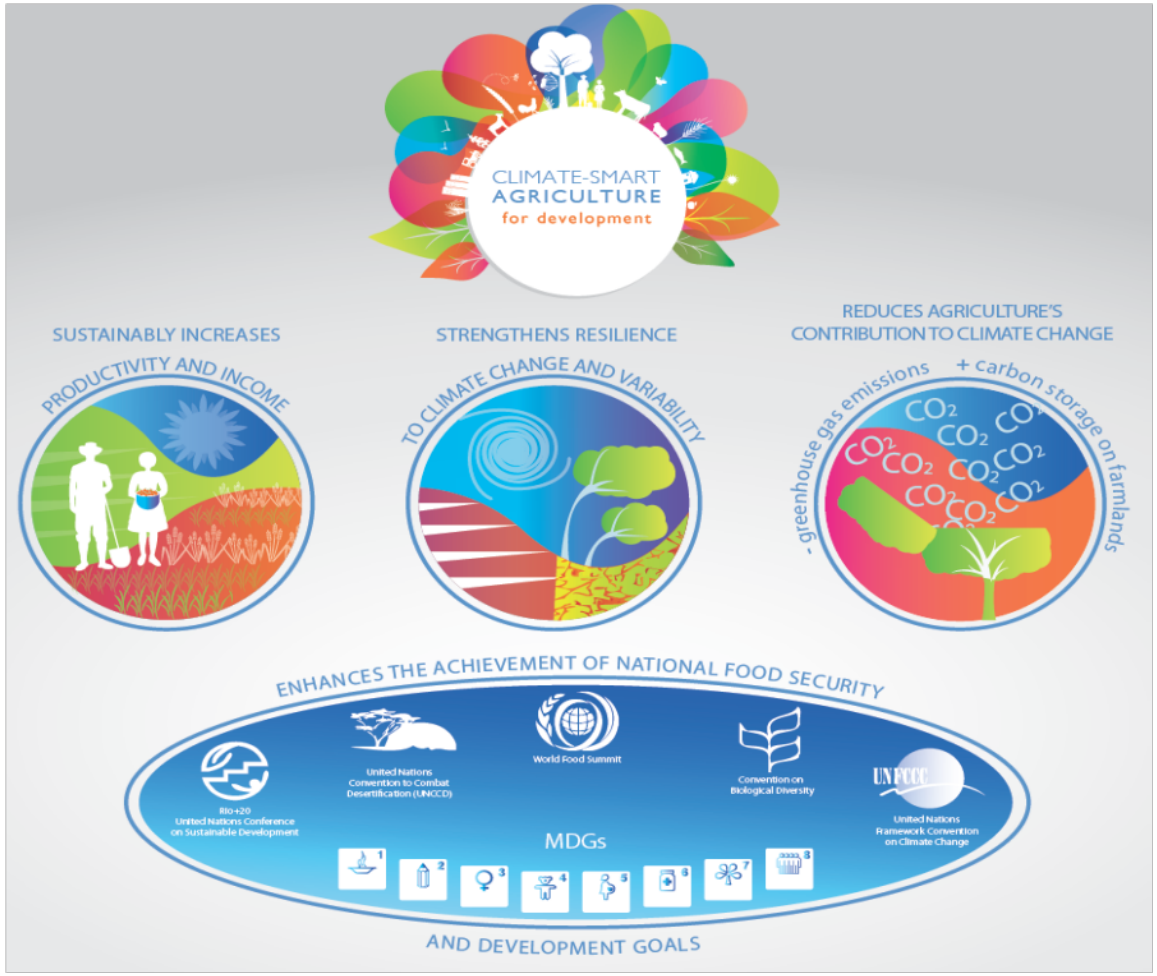


Climate change

3° the approach to reduce consequence of climate change

Seminar Varsavia. CICMA
R.Lembo

FAO's approach to climate change



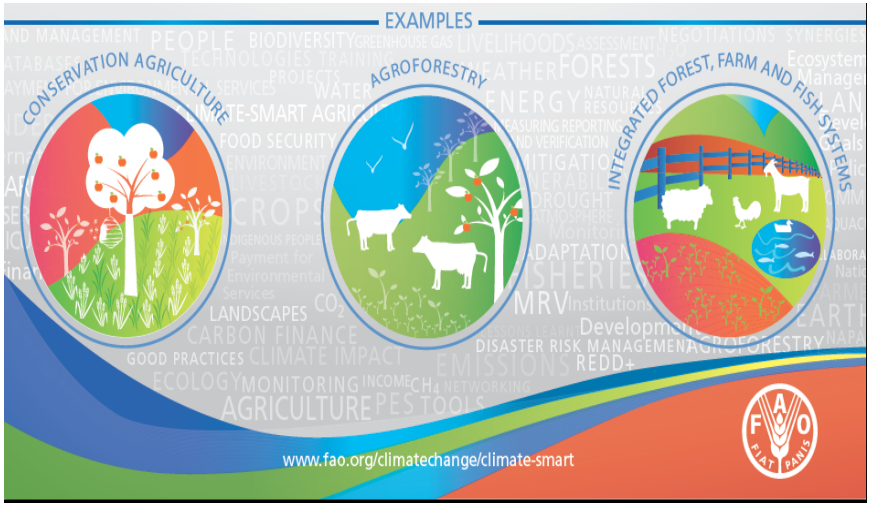
FAO along with other partners under the term **"Climate-smart agriculture"**, promote an agriculture that *sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation) while enhancing the achievement of national food security and development goals.*

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

www.fao.org/climatechange/climate-smart

CLIMATE CHANGE

FAO's approach to climate change



Agriculture not only suffers the impacts of climate change, it is also responsible for 14 percent of global greenhouse gas emissions. But agriculture has the potential to be an important part of the solution, through mitigation — reducing and/or removing — a significant amount of global emissions. Some 70 percent of this mitigation potential could be realized in developing countries.

Seminar Varsavia. CICMA
R.Lembo

Climate change and FAO good agriculture practise

GREENING THE ECONOMY
WITH CLIMATE-SMART AGRICULTURE

KEY MESSAGES:

1. Agriculture and food systems must undergo significant transformations in order to meet the related challenges of food security and climate change.

2. Increasing resource efficiency is essential both to increase and ensure food security on the long term and to contribute to mitigate climate change.

3. Building resilience to every type of risk is essential to get prepared to uncertainty and change.

4. Efficiency and resilience have to be considered together, at every scale and from both environmental, economic and social perspectives.

5. Implementing Climate-Smart Agriculture can be a major driver of Green Economy.

6. Greening Economy with Climate-Smart Agriculture is a concrete way to operationalize sustainable development.

7. Addressing food security and climate change requires concerted and coordinated involvement and action of all stakeholders on a long term perspective.

CLIMATE CHANGE

Climate change European vision

The European Union Policies for climate change point on the following actions:

- Increased use of renewable sources (wind, solar, biomass) and combined central to the generation of heat and power;
- Improvements in energy efficiency, for example in buildings, in the industry and in household appliances;
- Reduction of carbon dioxide emissions produced from new passenger cars;
- Measures the reduction of manufacturing industry;
- Measures to reduce emissions from dumps/ landfills

CLIMATE CHANGE

Climate change and agriculture

Our opinion is the green economy is not the only solution to reduce the impact of climate change

The contribution that agriculture can make to the mitigation of climate change is linked to various factors, such as:

- Adoption of agricultural practices that promote the "seizure" of carbon in biomass (in the case of tree plantations) and soils (in the case of crops and grasses),
- The supply of biomass for energy purposes, in place of fossil energy sources,
- Reducing net emissions of CO2 and other greenhouse gases.

Some “good practice interventions”

- of mass culture-bearing crops, meadows or pastures
- the promotion of organic farming,
- the adoption of rotations and rotations,
- green manure, the creation of hedges and rows,
- the minimum or no tillage of the soil
- the increase in biomass and organic matter in soils.

One bets practice: it may report that a draft cover may lead to an accumulation of carbon in the soil of a ton per hectare per year.

Climate change and good agriculture practise

According to FAO, the agricultural industry is responsible for an average of between 70 and 90% of global deforestation, which involves 15- 18% of the emissions of greenhouse gases.

The use of pesticide, the processes of manufacture,the transport and storage, are responsible to the increases of 44-57% of all greenhouse gas emissions

The model of extensive production and biotechnology is generating an increasing impact on the relationship about Man and Nature, marginalizing the majority of the most social.

According to a study by ProgettoMunden, 93% of farms, those of mining and timber occupy lands inhabited by indigenous peoples and local community that are expropriate of land and water to produce food for their food sovereignty.

The concentration of land, hoarding water, the siege of peasant communities are therefore the pillars that the social movements in Latin America, Africa, Europe, intend to put on the table in Lima, in the People's Summit and similar claims will be brought to the COP 21 in Paris

CLIMATE CHANGE

Climate change and good agriculture practise

The different position about the solution of the climate change

- **The delegations of the states that participated in the COP 20 in Lima have proposed***:*
  - *Promote green capitalism*
  - *Promoting climate smart agriculture*
- **The Social movements for water and land**
  - *linking the strengthening of family farming*
  - *the affirmation of the rights of farmers to have access to land, water to produce food for their own power*

The proposal to promote food sovereignty, sovereignty and environmental water is the flag that the Social Movements propose and request to reduce the impacts of the agro-export model to contrast the model of food security (based on the importations of goods through the practices of land and water grabbing) .

Any organized expression of civil society must decide which side wants to be and which kind of engagements we need to take in place.

Thanks for your attention and good work