WATER IS ESSENTIAL TO FOOD SECURITY IN A CLIMATE CHANGE CONTEXT

#WATER #CLIMATE #FOOD SECURITY #SDG2 #SDG6

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The members for the French Water Partnership are convinced of the 2030 Agenda's transversality and the strong links to be found between the different Sustainable Development Goals: in a context of climate change and population growth, cities (SDG11) will not be able to manage if the phenomenon of rural exodus intensifies; and solutions to issues facing sustainable farming and agriculture (SDG 2) will not be able to ensure sustainable development if the countryside is continually confronted with the present tendency of shrinking farm and agricultural land. In addition, as explicitly proposed in the following note, SDG 6 on water and sanitation management is an essential condition for achievement of SDG 2 and 11

EFFECTIVE MANAGEMENT OF WATER: MANDATORY TO ACHIEVE SDG 2

Water is an indispensable element for agriculture, aquaculture and raising livestock and to achieve food security, referred to in SDG 2 under different objectives:

End hunger (SDG 2.1)

End all forms of malnutrition (SDG 2.2)

Double agricultural productivity and incomes of small-scale food producers (SDG 2.3)

Transition towards sustainable agricultural systems: (SDG 2.4)

Increase investment in rural infrastructure and research and development to enhance agricultural productive capacity in developing countries (SDG 2 a).

The United Nations Framework Convention on Climate Change and, in its wake, the Paris Climate Agreement are recognized as a fundamental priority for the protection of food security and the elimination of hunger. This recognition entails, ipso facto, the adoption of good water management, within the framework of climate change considerations.

ACTING IN THE INTEREST OF WATER IS ACTING FOR MITIGATION

Agricultural practices have an important role to play in the mitigation of climate change. Sustainably-managed forests, rich in diversity and living soils, enable storage of carbon from greenhouse atmospheric CO2 gas. This presupposes that water and soils with good biological activity, which retain their storage capacity (micro-porosity permitted by the roots, mycorrhiza, presence of organic material, earthworms...) are not dried out.

ACTING IN THE INTEREST OF WATER CONTRIBUTES TO ADAPTATION

Improving water and soil management ensures the sustainable development of regions and will safeguard the food supply to 9.8 billion people by 2050.

However, with today's growing pressures (climate change, population growth, industrial and agricultural models that consume large amounts of water), many countries are already experiencing structural water shortages, over-exploited or polluted water tables and soils with poor water retention. 500 million people are today experiencing severe freshwater shortages all year round (Science Advances, February 2016) and according to the OECD 2012, 40% of the world's population will be faced with water shortages by 2050.

OUR RECOMMENDATIONS

To reach the goals established by SDG 2 and the Paris Climate Agreement requires concurrent implementation of a diversity of levers of action on a regional level, in order to find a compromise between resilience to climatic disruptions and increased agricultural productivity, while keeping a close watch on the future of small-scale family farming:

OUR RECOMMENDATIONS

MANAGING THE DEMAND FOR WATER

- encourage more efficient water-irrigation, including support for family farming. Protect agricultural land from urban
- **Tempering water demand for agricultural production:** by choosing suitable crops, deep-rooted ones for example, by using varieties adapted to local pedoclimatic conditions, by developing best practices that limit evapotranspiration and the drying out of soils (mulch, associated coverings, agroforestry, windbreak hedges...),
- **Measures to reduce expenditure on water and concerted use of water resources:** improvement of irrigation system efficiency, water metering and allocation systems that encourage economical use of resources, aquifer contracts, etc.
- **Implementation of regional planning of water uses** based on the principle of balanced management of water resources. This requires monitoring and evaluation of resources and the drawing up of quantitative goals that reconcile different user needs and the preservation of ecosystems.
- **Reduce agricultural and agro-food loses and waste as well as overconsumption by half before 2030:** Reduction of the consumption of meat which depends on blue water (cropland) for its production rather than green water found in pastureland is an alternative solution.

CONSERVING WATER IN THE GROUND

- **Develop alternative agro-ecological, agronomic and agro-sylvo-pastoral practices to the "model" based on the green revolution, which took place in the second half of the 20th century.** The advantages acquired are multiple: increase in soil fertility via the associated crops, agroforestry, management of the humus layer, restitution of crop residues, prevention of erosion and storage of carbon, reduction of ground and water pollution, increased revenues, reduction of evaporation loss, groundwater recharge.
- **Restore and preserve biodiversity for its positive impact on agricultural production:** provision of better-quality resources (water and soil), better infiltration of rainwater into the ground, better water storage in the ground, better upwelling of water and nutrients from deep sources, carbon sequestration in the ground, reduction in needs for energy-intensive inputs, etc.

MOBILISE NEW WATER RESOURCES WHEN APPROPRIATE AND SUSTAINABLE

- **As and when useful and sustainable and after having examined other possible levers of action, implement water storage projects,** in order to safeguard food production systems and services performed by agro-ecosystems and avoid water withdrawals in dry periods when water is scarce. These infrastructures, subject to a demonstration of their environmental and economic sustainability, must be collectively managed within the framework of a regional project that can lead to a change in crop rotation to achieve better tempering of water demand. In addition, the interest of such infrastructures must be examined with respect to inter-annual climatic variability likely to impact their optimal performance and negatively impact the sustainability of allocated funding.
- **Ensure triple performance (economic, social and environmental) of context-adapted irrigation systems.** The development of efficient irrigation can improve and preserve soil quality; agricultural productivity, the revenue of small-scale food producers, drought resilience, good management of inputs, provided that salinization of the soil or poor irrigation is avoided.
- **Exploit non-conventional water resources when locally appropriate, in contexts of chronic quantitative deficits, paying due respect to public health and environmental quality:** recycling of treated waste water, in situ management of rainwater, desalination...
- Integrate the mobilization of new resources within the framework of a **regional usage plan** as part of a prudent and sustainable water management objective.

PROMOTE REGIONAL GOVERNANCE AND SOCIAL ACCEPTABILITY

- **Advance social debate and better mobilize the "knowledge chain":** participatory prospective programs, acknowledgment of viewpoints, know-how and rural community skills, rural engineering, training, technical support and support for farmers, development of urban agriculture, agronomic research, innovation.

OUR RECOMMENDATIONS

- **Ensure coherence of sectoral policies for Water, Agriculture, Urban Planning and Climate:** implement pro-active public policies to give support to the most sustainable forms of agriculture, most economical in terms of water and inputs, and spread.
- **Develop water policies that ensure effective user participation and concerted sharing between different water users (including the environment):** regional projects for sustainable agriculture, efficient use of water in all its various usages, fair access to resources (recognition and defence of water access rights for family agriculture), increasing the scope of agricultural representative bodies and more generally that of all regional stakeholders to achieve a balanced water governance partnership.
- **Increase financial capacity:** the need for infrastructure investment (water storage and extension of irrigation, conveyance and wells, recycling and desalination), the IPPC has estimated that successful adaptation to climate change will cost 225 billion US Dollars by 2030. Funding by the 3 Ts (taxes, tariffs, transfers) is an interesting financial lever. Low-cost and more sustainable solutions must initially be deployed in order to avoid recourse to expensive and energy-intensive solutions other than as a last resort. Available funds for adaptation to climate change must be increased, in particular in the form of subsidies, and criteria for their optimal use must be defined. Such funds must allow access to credit adapted to the needs of hydro-agricultural investment.

ABOUT THE FWP

The French Water Partnership, presided by the former deputy Jean Launay, is the reference international platform for all the french water stakeholders, whether public or private, with activities at the international level. Its 150 members are gathered into 6 colleges representing the whole french water landscape : State and public estabilshments, NGOs, associations and foundations, local and regional authorities, businesses, research and training institutes, as well as qualified experts. The FWP has been acting for 10 years to make water a top priority in the worldwide political agenda, and promoting the French know-how.

http://www.partenariat-francais-eau.fr/en/

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THEY ARE THE MEMBERS OF THE FWP