



REVIEW OF THE INTEGRATION OF WATER WITHIN THE INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDCS) FOR COP21

Key findings :

Water, a priority for adaptation

- Beginning of November, 129 INDC (128 countries and the European Union) on a total of countries of 197 involved in negotiations, contributed to the UNFCCC platform survey of INDC
- 82% of the published INDC mention the necessity to adapt to climate change: especially African, Latin American-Caribbean and Asia-Pacific countries
- 92% of INDC which mention adaptation include water
- Water is the first priority area noted for adaptation, followed by agriculture and health
- 4 main themes are mentioned for water: Agricultural water, Risk management (flood & drought), Integrated Management of Water Resource (IWRM), Drinking water
- Water actions are diverse in nature, with 3 priorities: infrastructure (network improvements, construction of dams, etc.), information systems (collection and transmission of data at local and national levels) and institutional /regulatory measures (ei. taking into consideration climate change issues in the National Plans for water)

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I/ CONTEXT

At the international climate change negotiations in Warsaw (COP19), Parties agreed that they would communicate, in the first quarter of 2015, how they planned to contribute to reducing greenhouse gases (Decision 1/COP19) and respond to its consequences (adaptation) for the post-2020 period.

These commitments are called ‘Intended Nationally Determined Contributions’ (INDCs); they are developed by each government and recorded within the United Nations Framework Convention on Climate Change (UNFCCC). They are one of the main pillars of the COP21.

Developing countries called for stronger financial and technical support from developed countries for preparing their contributions. Developed countries were supposed to provide methodological support to developing countries to ensure that they would respect the submission deadline of the first quarter of 2015.

Although the initiative was successfully taken up on the whole, some countries, such as Venezuela, Iran, Egypt and Saudi Arabia, refused to respond to the UNFCCC requirements. Reasons that might explain these refusals include an opposition in principle to an agreement drawn up on the basis of conflicting ideologies, a desire to wait to know the positions of major oil-producing countries, or an unstable domestic situation.

The INDCs are due to be analyzed in detail by the UNFCCC at a date to be decided during the COP21 negotiations. The aim of this official review will be to perform a precise assessment of the climate change impacts of the INDCs. An [initial assessment published by the UNFCCC](#) is however available, in which the 119 INDCs that were available on the date of October 1st 2015 are analyzed. This represents the contribution of 147 Parties (118 countries + the European Union and its 28 member countries) on a total of 154 countries involved in the negotiations are analyzed.

This review provides a summary of the aforementioned document as well as an additional internal analysis by the French Water Partnership and the Coalition Eau, which includes the review of the 129 INDCs published on the UNFCCC website as of 8 November 2015.

II/ GENERAL REVIEW OF INDC

According to two separate studies produced by NGO [Climate Action Tracker](#) and the [United Nations Environment Program](#), the sum of national contributions, as they stand today, correspond to an average global warming augmentation between 2.7 °C and 3.5°C by 2100. The actions planned are insufficient to stop temperatures in this century from rising more than 2 °C, which is the initial goal of COP21. This is of particular concern for water management which will be put in great difficulties, especially in already vulnerable areas, if temperatures rise further.

National contributions vary in content; some countries have gone into great detail in their INDCs, outlining climate change impact, mitigation, adaptation actions, financing needs, technology and capacity building needs, and so on, while others have merely communicated the broad orientation they wish to implement. It should be noted that some countries highlighted shortcomings in data production that made it difficult to plan and define actions.

- **Adaptation, a key component for developing countries**

Of the 129 INDCs published as of 8th November 2015, 106 mention or include a component on adaptation (82%). In the case of Africa, all 46 countries that have set INDCs make reference to adaptation.

Countries that do not mention adaptation in their INDCs are mainly countries in Annex 1 of the Kyoto Protocol (developed countries) and other countries in the European region (non-EU). This does not mean that these countries are not addressing the issue; in fact, many of these countries have also developed national adaptation plans, but have not mentioned them in their INDCs. This probably reflects the will of the richest countries that the future COP 21 Climate agreement focuses on mitigation, for all countries. We may also see this as a literal reading of Article 2 of the United Nations Framework Convention on Climate Change (RIO-1992) which does not mention adaptation. Another hypothesis is that, as these countries are not eligible for international climate funds they did not integrate adaptation into their INDC. Indeed, the developing country adaptation efforts will be supported by financial mechanisms, such as the Green Fund..

The issue of adaptation is closely linked to that of financing—the Loss & Damage Mechanism is a good example—which is at the center of the debates between developed and developing countries. Indeed, some countries have specified some actions which realization is subject to obtaining the financial means to achieve them. As a result, the implementation of INDCs depends on the outcome of climate finance negotiations.

- **Water, agriculture and health : priority areas for the adaptation component**

The UNFCCC's report on 119 INDCs shows that the three priority sectors are water (mentioned by 89 Parties), agriculture (mentioned by 82 Parties) and health (mentioned by 67 Parties). This confirms the strong focus on water in climate change adaptation policies. Indeed, besides the fact that it is the most cited sector, the very close links between water and agriculture, and between water and health, make it an essential issue for the development of adaptation actions for countries affected by climate change.

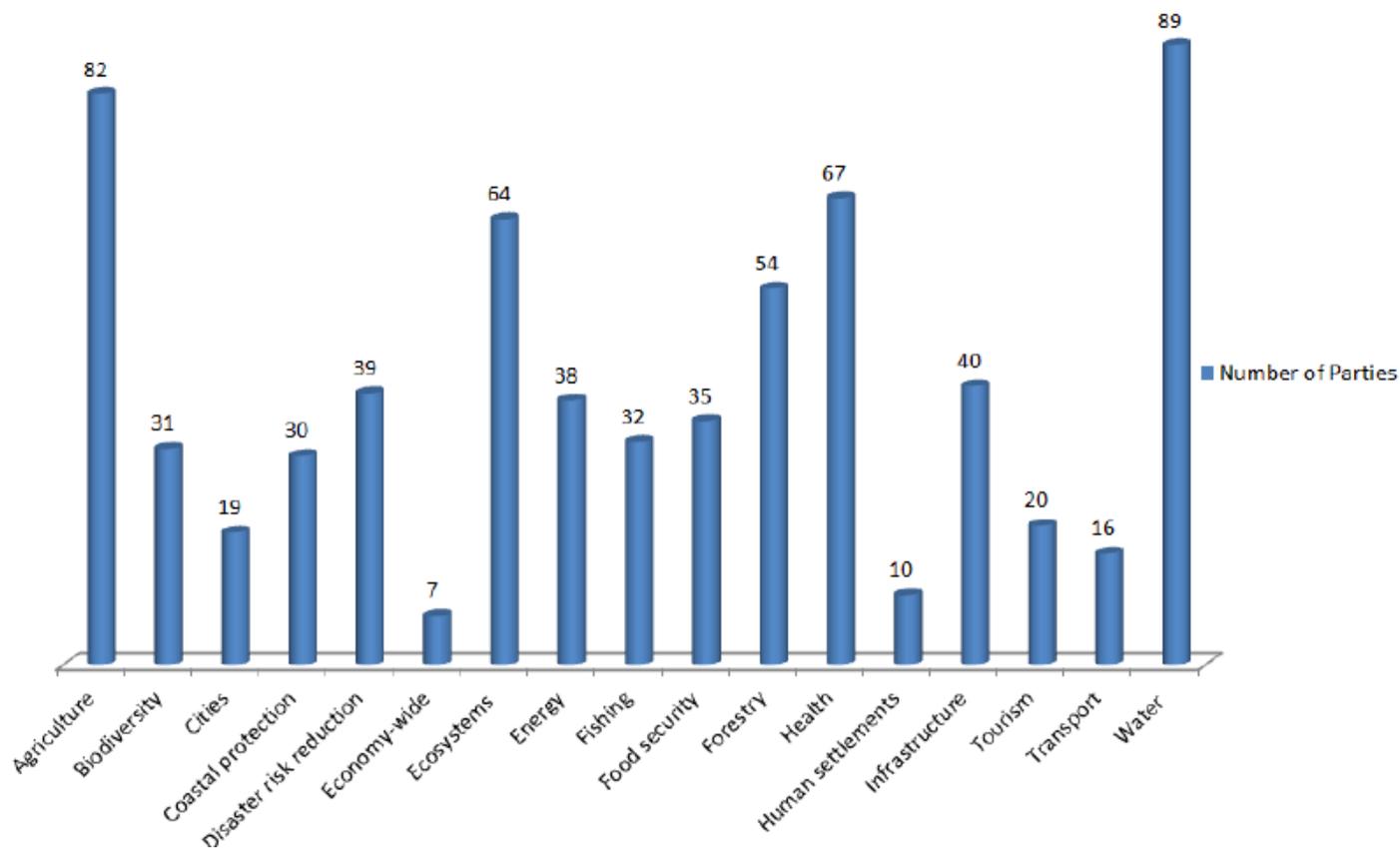


Figure 1 : Figure1: Priorities for adaptation actions for 119 countries.
Source: UNFCCC, October 2015

III/ A CLOSER LOOK AT WATER IN INDCs

As of 8 November 2015, 98 INDCs mentioned freshwater, groundwater and coastal waters, which corresponds to 92% of INDCs with an adaptation component, or 75% of all INDCs published.

- **Water and Climate: a source of vulnerability**

Several countries warn of the various consequences that disturbance to the water cycle might have on economic, social, and political areas. Vulnerable populations are the most at risk. For example:

- One issue that is raised is **access to water resources**, both in physical terms (i.e. drought) and economic terms (i.e. water price volatility).
- Changes in rainfall during the growing season of future crops could **modify the farming calendar and undermine food security** for the populations of the countries concerned.

- Certain **social injustices** could be made worse, for example, for women, who will have to travel further and further to find drinking water, or girls forced to leave school to relieve their mothers of this chore.
- **Health issues** due to poor water quality have serious consequences for already vulnerable populations - such as the under-nourished or groups or the HIV immune deficient .
- Finally, access to water poses **transboundary security** issues due to population displacement connected with the increasing scarcity of the resource (conflicts between pastoralists, hostility towards refugees).

● **Water and Climate: a cross-sector concern**

The level of details given to Water actions in INDC is very uneven: some countries precisely detail their actions (eg Jordan, Moldova, Bolivia, Bangladesh, Morocco, Ivory Coast or Laos) whereas about thirty countries announce water as a priority area without mentioning which actions they seek to implement.

In the INDCs, water is not always considered as a separate “Water sector”, but also often appears transversally across other sectors (agriculture, ecosystems, fisheries, coastal management ...)

The following figure shows the number of occurrence of adaptation actions related to water, both as a sector or as a cross-cutting issue.

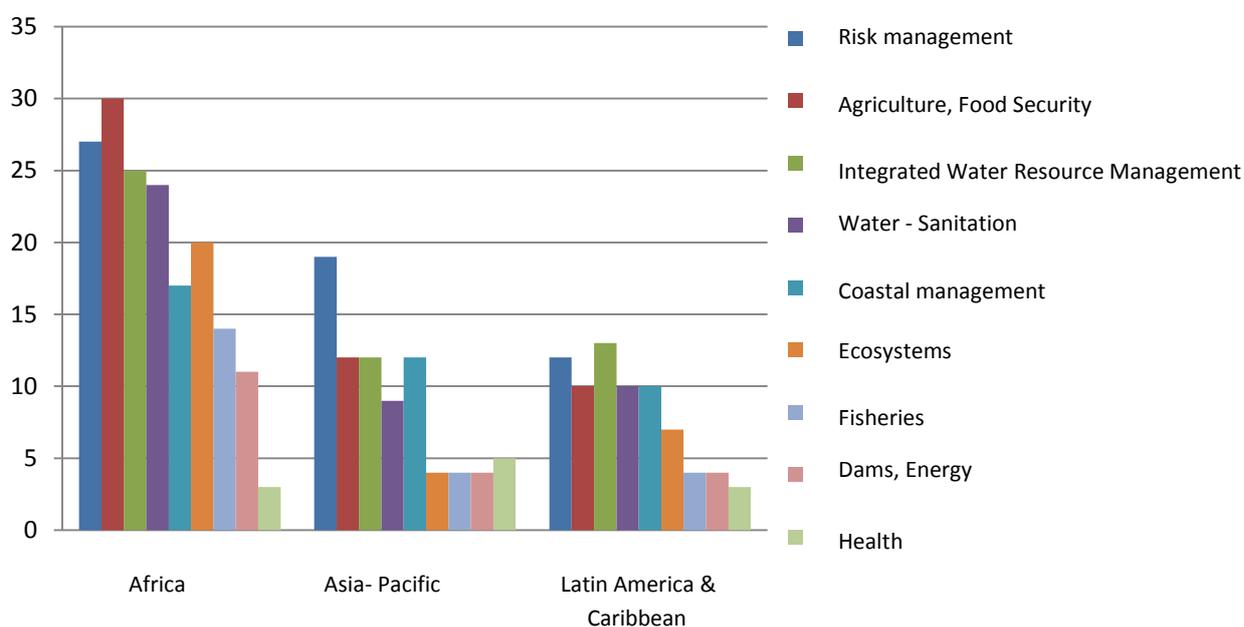


Figure 2: Main water concerns by geographic area

Water is mainly mentioned in relation to four priority areas: **Agriculture, Risk Management** (floods, weather and water variability, etc.), **Integrated Water Resources Management, and Drinking Water**.

The **coastline management and fishing** are other issues frequently identified by Parties and are sometimes priority adaptation areas (they are therefore cited separately from actions related to water management or ecosystem conservation).

Dams are also often mentioned as an important adaptation means (reinforcement of infrastructure, modification due to water scarcity etc.). One can note that in some contributions, hydropower dams and energy production from wastewater are also listed as mitigation actions. However these mitigation actions are not shown in figure 2, which focuses solely on adaptation.

Unfortunately, the issue of health is rarely linked to the water sector; this means, in particular, that there is little mention of sanitation issues in INDCs.

TOPIC 1: RISK MANAGEMENT

Countries report that extreme weather events are occurring more frequently. The climate change hazards most often highlighted by the Parties are floods, rising sea levels, changes in the rainfall cycle, droughts and desertification.

For most of the countries that mention adaptation policies, water features under the risk reduction topic, within which floods and drought are very strong concerns.

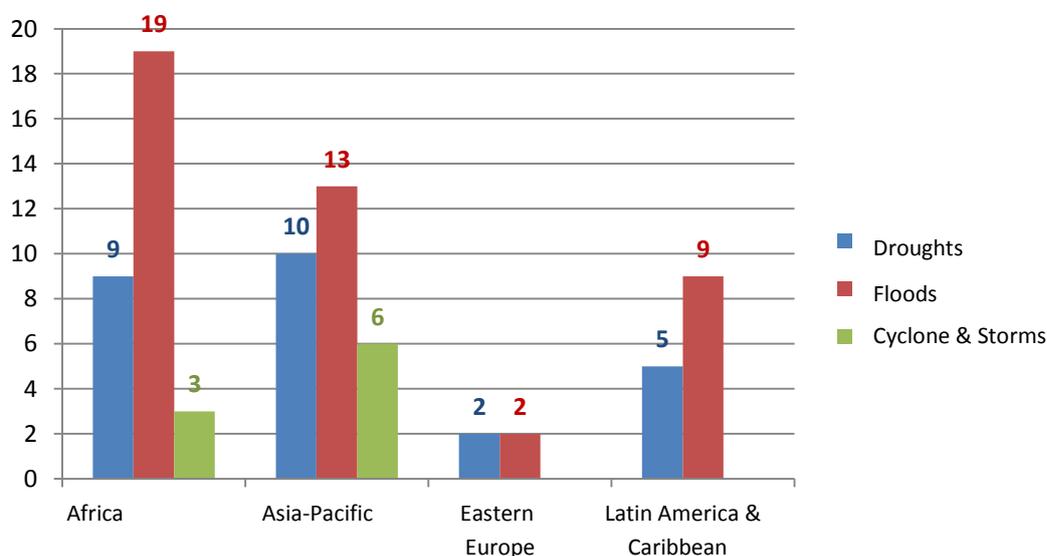


Figure 3 : Water Related Risks

The proposed actions include: the hydrometeorological risk assessment and prediction of climate, the establishment of early warning systems, the development plan responses to extreme events, the construction of protective structures and the increase of infrastructure resilience.

TOPIC 2: WATER & AGRICULTURE

The water sector is often mentioned in relation to the agricultural sector, particularly in Africa where the availability of water for irrigation is a fundamental issue.

Many countries also reported the need to address floods and the salinization of water, which are forcing them to adapt their crops.

For rural populations in areas threatened by desertification, access to water is vital to the continuation of their activities. These countries include the implementation of water-efficient irrigation systems among their priorities; they also mention technology transfer as being key to ensuring the livelihood of these communities.

TOPIC 3: INTEGRATED WATER RESOURCES MANAGEMENT (IWRM)

Many Parties (51 countries) mention the implementation of Integrated Water Resources Management, although this is often subject to technology transfer and financial support.

This dissemination of a responsible approach to managing water resources highlights a real awareness among countries of the importance of ensuring sustainable access to water while at the same time preserving ecosystems and the need to involve local people in this process. It would seem that a capacity-building approach is needed among communities rather than the "top-down" approach that has prevailed until now.

TOPIC 4: DRINKING WATER

Access to drinking water is addressed in the INDCs; however, the following observations should be made:

- The focus is often on improving the urban distribution network (minimizing leakage, controlling the supply better, etc.), but few INDCs address water quality in rural areas.
- The issue of sanitation goes largely unmentioned in national contributions. And yet, access to sanitation and reinforced treatment of wastewater will be made even more complex by climate change and the growing pressures it will place on water, notably on its quality.

- **Specific geographical considerations**

LANDLOCKED COUNTRIES

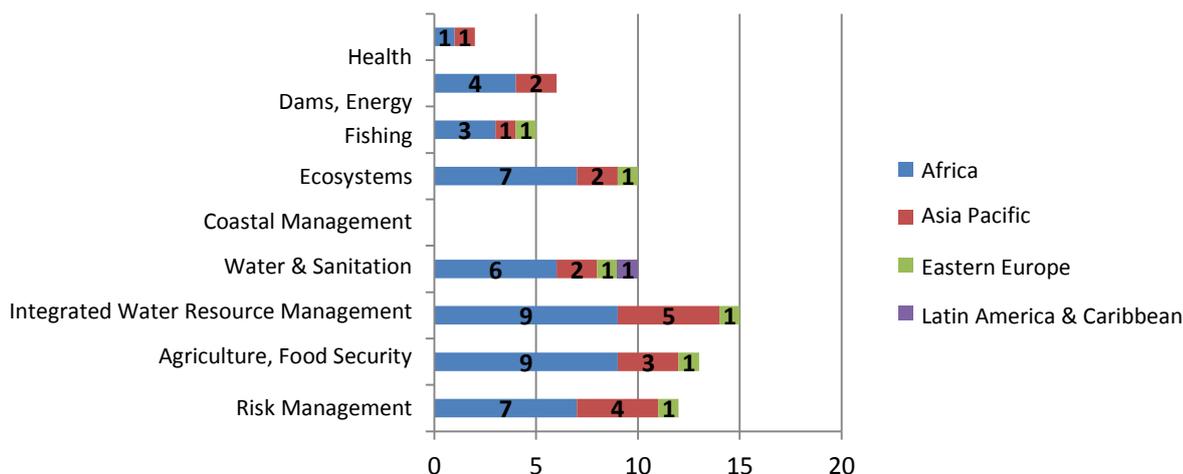


Figure 4 : Main Water Concerns mentioned by Landlocked countries

The priority of landlocked countries in terms of adaptation is Integrated Water Resources Management, followed by improving irrigation and reducing risks (of drought in most cases). This seems consistent with the contextual information provided by countries which highlights water scarcity, sanitation problems, or rapid desertification of agricultural areas.

It is not surprising that IWRM is at the top of the list for these landlocked countries because it promotes a shared basin management approach which represents a valid opportunity for such countries that can be both very poor and densely populated, and that suffer regular water shortages despite the presence of natural resources (see, for example, the situation of Lesotho).

Small Island Developing States

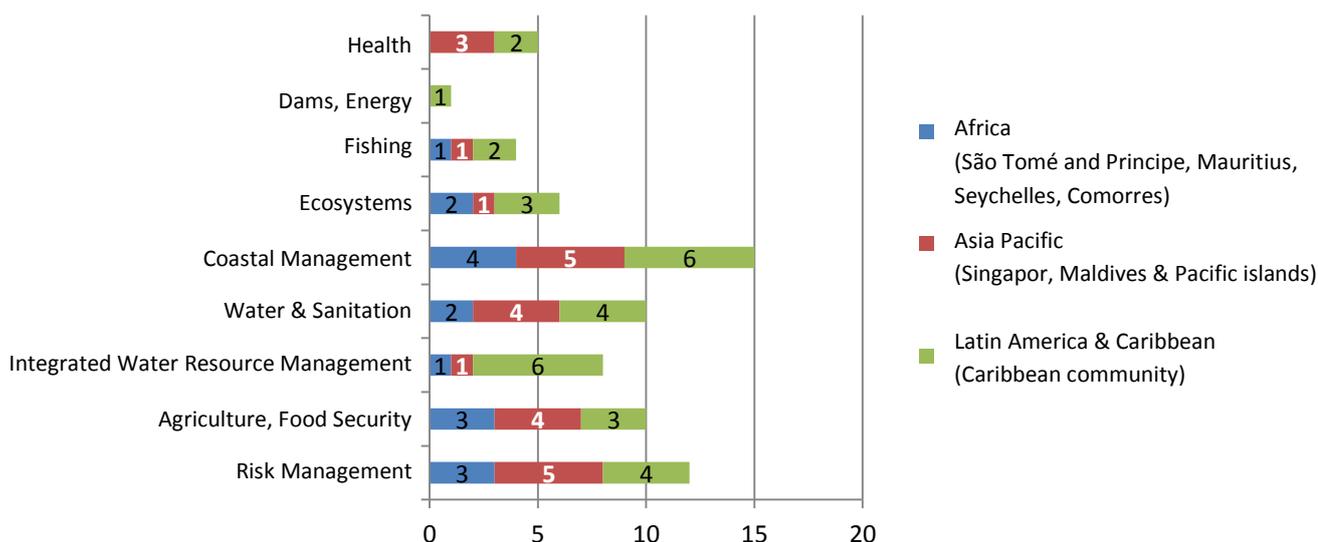


Figure 5 : Thématique des actions de l'eau de Petits États insulaires en développement

The national contributions of Small Island Developing States (SIDS) highlight the need for them to reduce risks associated with rising sea levels. Indeed, 15 countries mention water in relation to the management of coastal areas (this sometimes includes the salinization of freshwater basins), and twelve in relation to

risk reduction. For SIDS, adaptation measures target cyclones, floods, or even the risk of certain micro-states disappearing.

- **Diversified actions**

For most Parties, water is seen as being key to development. Consequently, numerous actions to improve water resource management have been included with the aim of saving water, ensuring water security, improving water allocation and expanding supply networks.

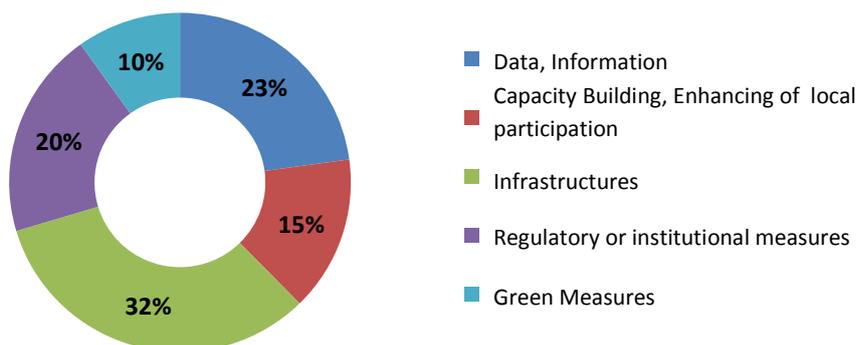


Figure 6 : Nature of the actions planned

The adaptation measures most often proposed (in 32% of cases) consist of building water supply infrastructure or improving the existing one (wells, reservoirs, delivery channels, etc.). Next, are knowledge-building measures (23% of measures proposed); these range from the implementation of warning systems to the publication of information for the public.

Regulatory initiatives connected with the water sector (referred to in 20% of adaptation measures), focus on creating the legal conditions to implement action plans, set up water management assessment or risk forecasting services, or harmonize existing policies to improve efficiency.

Finally, implementing capacity-building among communities and green measures (e.g. reforestation to preserve groundwater) feature more rarely (in 15% and 10% of adaptation measures respectively).

The proposed actions range from very concrete ones (like desalinating 285 million m³ of sea water, digging wells, or replacing pumping of aquifers by rainwater and surface water harvesting) to very general ones (such as systematically taking account of climate adaptation in the water sector, developing a water-efficient society, or designing water-efficient irrigation systems). Countries do not all go into the same level of detail concerning the adaptation measures they have planned, so it is difficult to draw specific conclusions, except on the strong need for infrastructure facing most countries.

IV/ CONCLUSION

For most Parties, water will be one of the key adaptation challenges of climate change, especially in relation to drinking water and sanitation, disaster risk management, agriculture and IWRM.

It is interesting to see that many countries link good water management to food security, preserving ecosystems or reducing disaster risks for inhabitants. This means that there is promise of positive synergies being achieved through investment in the water sector, not only to respond to climate challenges, but also to respond to the 2015-2030 Sustainable Development Goals. Strong synergies between INDCs and the implementation of post-2015 sustainable development goal on water seem a necessity.

It should be noted that many developing countries have not gone into detail in their adaptation plan, either about the sectors involved or the measures foreseen. This may be explained by a lack of knowledge about existing solutions, or a lack of human and technical resources in the drafting of INDCs.

Annex 1 countries have not mention Adaptation in their INDC placing this issue at the heart of the negotiation will thus be one of the main challenges of this COP21 for developing countries.

The implementation of adaptation measures is often subject to financial support from the richest countries; their position on the mechanisms for financing adaptation will be of utmost importance to the inclusion of water in the national policies of developing countries.

If the emergence of water as an adaptation priority demonstrates a growing awareness of the importance of this sector in the development of vulnerable countries, it should also alert us about the dramatic consequences of the already very concrete climate emergency that we face and the need to act now, to address the consequences of these changes already experienced in many vulnerable countries.