

## Climate change and water security: solving the equation

By Mikhail Gorbachev and Jean-Michel Severino

The Intergovernmental Panel on Climate Change recently released alarming data on the consequences of global warming in some of the world's poorest regions. By 2100, one to three billion people worldwide are expected to suffer from water scarcity. Global warming will increase evaporation and severely reduce rainfalls – by up to 20% in the Middle East and North Africa – such that the amount of water available per person could be halved by mid-century in these regions.

This sudden rarefaction of an element whose symbolic and spiritual importance matches its centrality to human life will exert considerable stress on nations and their inhabitants, and exacerbate conflicts worldwide. Africa, the Middle East and Central Asia will be the first exposed. The repercussions, however, will be global.

Yet this bleak picture is no excuse for apathy, no legitimate ground for pessimism. Conflicts may be inevitable; wars are not. Our ability to prevent water wars will depend on our collective capacity to anticipate tensions, and to find the technical and institutional solutions to manage emerging conflicts. The good news is that such solutions exist, and are everyday proving their efficiency.

Dams - provided they are adequately sized and designed - can contribute to human development by fighting climate change and regulating water supply. Yet in a new context of scarcity, upstream infrastructure projects on international rivers may impact water quality or availability for neighbouring states, and cause tensions. River basin organisations such as that established for the Nile, Niger or Senegal rivers help facilitate dialogue between states that share hydraulic resources. By developing a joint vision for the development of international waterways, these regional cooperation initiatives work towards a common ownership of the resource, thus reducing the risk of disputes over water use escalating into violence.

Most international waterways have such dedicated frameworks for dialogue, albeit at very different stages of advancement, and levels of achievement. If we are to take climate change predictions seriously, the international community should strengthen these initiatives. When they do not exist, they should be created in partnership with all actors of riparian countries. Official development assistance can create incentives to cooperate, by financing data-collection, providing technical know-how or indeed by conditioning loans on constructive negotiations.

Yet international water conflicts are only one side of the coin. The most violent water wars take place today *within* rather than *among* states. The dearth of water fuels ethnic strife, as communities begin to fear for their survival and seek to capture the resource. In Darfur, recurrent drought has dramatically envenomed tensions between farmers and nomad herdsman, and the war we are helplessly witnessing today follows years of escalating conflict. Chad risks falling prey to the same cycle of violence.

It is thus urgent to satisfy populations' most basic human needs through local development initiatives. Rural hydraulic projects, which ensure access to water for these populations over large stretches of land, can prove to be efficient conflict prevention tools. Secured grazing corridors are being established to orient nomads and their herds to appropriate areas, with the help of modern satellite imagery. Such initiatives provide rare opportunities for dialogue and collaboration between rival communities. The key is to anticipate, before tensions escalate to a point of no return.

Water *consumption* must also be addressed. Agriculture accounts for over 70% of water use in the world. Agronomical research and technical innovations are key to maximizing water efficiency in this sector, and they must be taken much further. But addressing scarcity will inevitably imply revising agricultural practices and policies worldwide to ensure their sustainability. The development challenge no longer solely consists in bringing agricultural water to deprived areas. As the dramatic recoil of the Aral Sea, Lake Chad and the Dead Sea

illustrates, it now resides in the collective preservation of scarce natural resources, and their equitable distribution between conflicting needs. Responsible use will require adequate economic incentives. In West Africa or the Middle East, Central Asia or India, this, too, can contribute to abating clashes over water.

Given the unprecedented scale of the threat, business as usual is not an option. The Cold War came to a peaceful end thanks to realism, foresight and strength of will. These three qualities should be urgently put to work if the blue planet is to be spared of major water wars. Our decade must see an equally global change in mentalities, a break in paradigm, from decision-makers as well as consumers. This global challenge demands innovation in global governance. This is why we support the creation of UN Environment agency, endowed with legal and financial proportionate to the stakes at hand.

Our message is all the more challenging as it is one of hope: humanity can go a long way in solving the water equation. Waiting is not part of the solution.

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